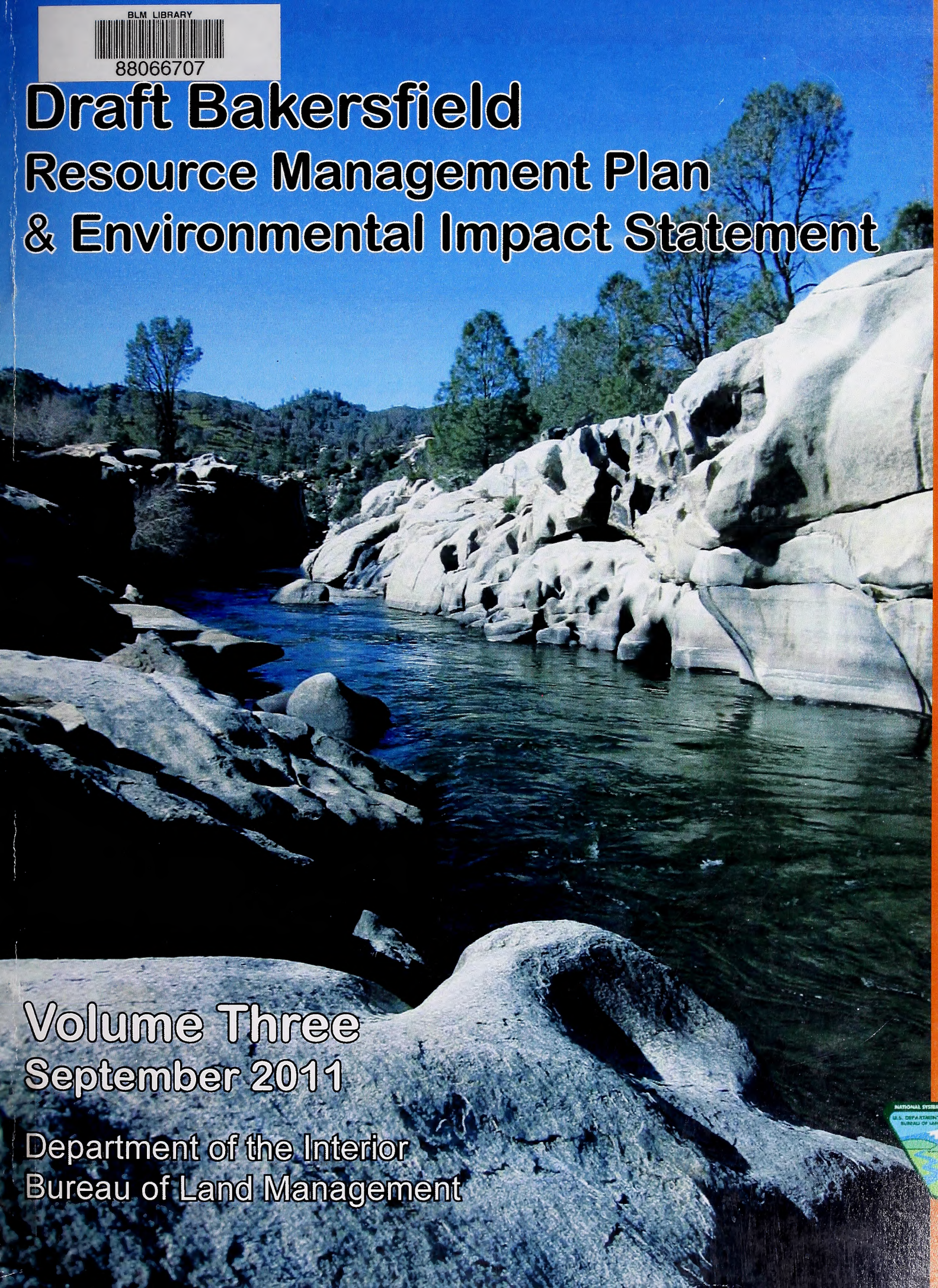
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Draft Bakersfield Resource Management Plan & Environmental Impact Statement



Volume Three
September 2011

Department of the Interior
Bureau of Land Management

Bakersfield Field Office, California

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Draft Resource Management Plan and Environmental Impact Statement for the Bakersfield Field Office

Volume III

Appendices

September 2011

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APPENDIX A

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A.1 INTRODUCTION

Air quality indicators include air pollutant concentration and air quality related values (AQRV) such as visibility. This RMP addresses air quality within the Planning Area, focusing on BLM activities and programs in the Decision Area that potentially effect air quality and result in changes from the existing situation.

The Planning Area is divided into five air basins that are generally grouped by similar geographic and meteorological conditions. Air basins within the Planning Area include the San Joaquin Valley Air Basin, the Mojave Desert Air Basin (eastern Kern County part), South Central Coast Air Basin, and small portions of the North Central Coast Air Basin (Monterey County) and the Great Basin Valley Air Basin (Inyo County) (Map 3.1). The majority of the Decision Area occurs within the San Joaquin Valley Air Basin and the eastern portion of Kern County, in the Mojave Desert Air Basin. In Monterey County, BLM manages the federal mineral estate under Camp Roberts. Surface management of lands in the Inyo County portion of the Planning Area is the responsibility of the U.S. Forest Service. Regulatory oversight authority for air quality matters rest at the local level with various air districts (see Table.3.1-1.), at the state level with the California Air Resources Board (CARB), and at the federal level with the U.S. Environmental Protection Agency (EPA), Region IX. Air resource laws and national air quality regulations are summarized below:

Federal Land Policy and Management Act of 1976, 43 U.S.C. §§1701-1785. This Act outlines the BLM's role as a multiple use land management agency and provides for management of the public lands under principles of multiple use and sustained yield. Congress' policy objective is to manage the public lands "in a manner that will protect the quality of...air and atmospheric... values." The Act specifically calls for the periodic and systematic inventory of public land resources by directing the Secretary to "maintain on a continuing basis an inventory of all public lands and their resource and other values (including, but not limited to, outdoor recreation and scenic values)." The Act also calls on the Secretary to "provide for compliance with applicable pollution control laws, including State and Federal air, water, noise, or other pollution standards or implementation plans" in the development and revision of land use plans. The Act further directs the Secretary of the Interior to take any action necessary to prevent unnecessary or undue degradation of the lands.

Clean Air Act of 1955, 42 U.S.C. §§ 7401-7671q. One of the purposes of the Clean Air Act is to protect and enhance the quality of the Nation's air resources so as to promote the public health and welfare and the productive capacity of its population. The Act focuses on reducing both criteria air pollutants and hazardous air pollutants, and designates EPA as the primary regulatory authority responsible for air quality (including visibility) management. Compliance and enforcement of these Federal requirements may be delegated to applicable Tribal, State and local regulatory agencies. The Clean Air Act also allows these agencies to establish regulations which are more, but not less, stringent than the Federal requirement. As required by the Clean Air Act, EPA has established National Ambient Air Quality Standards (NAAQS),

as presented in Table 3-1-2. Primary standards are set at the level required to protect human health with an "adequate margin of safety" and must safeguard the public as a whole. Secondary standards are set at the level that protects public welfare, which is defined to include all forms of environmental damage, including but not limited to effects on visibility, water, soil, and climate. Areas which persistently exceed the NAAQS are designated as nonattaiment, and must implement programs to reduce air pollution and achieve the standards. Maintenance areas are former nonattainment areas, and must implement programs to assure continuing achievement of the standards.

In order to prevent all areas to be allowed to deteriorate up to the level of the NAAQS, the Clean Air Act includes provisions for the Prevention of Significant Deterioration (PSD). A classification system was established identifying allowable amounts of additional air quality degradation (increments) which would be allowed above legally established baseline levels. PSD Class I areas have the greatest limitations, with a very limited amount of additional degradation allowed. Mandatory federal PSD Class I areas were identified in the Clean Air Act, primarily large national parks and wilderness areas (as of August 7, 1977) and cannot be redesignated. The remainder of the nation (outside nonattainment and maintenance areas) was designated as PSD Class II areas, where moderate deterioration and controlled growth is allowed. The Clean Air Act also established procedures by which PSD Class II areas could be redesignated as Class I, or as Class III, where a greater amount of deterioration would be allowed. To date, very few PSD Class II tribal lands have been redesignated as Class I, and no areas have been redesignated as Class III. In addition to establishing the PSD increments, the U.S. Congress established the National Visibility Goal of "the prevention of any future, and the remedying of any existing impairment of visibility, in mandatory class I areas which impairment results from manmade air pollution." PSD Class I areas in and around the Planning Area include:

- Kaiser Wilderness Area;
- Yosemite National Park;
- John Muir Wilderness Area;
- Kings Canyon National Park;
- Sequoia National Park;
- Dome Land Wilderness Area;
- San Rafael Wilderness; and
- Minarets Wilderness Area.

Additional mandatory PSD Class I areas occur outside the Planning Area, but within 75 km of the FO boundary (refer to Map 3.6); these include Pinnacles Wilderness Area, Ventana Wilderness, Hoover Wilderness Area, Emigrant Wilderness Area, San Gabriel Wilderness, and Cucamonga Wilderness. Most lands in mandatory PSD Class I visibility protection areas are managed by the National Park Service and the U.S. Forest Service. BLM does not currently have any stationary sources subject to PSD review in the Decision Area.

The Clean Air Act section 118(a) requires that each agency and employee of the Federal government comply with all Federal, State, interstate, and local requirements, administrative authority, and process and sanctions respecting the control and abatement of air pollution in the same manner, and to the same extent as any nongovernmental entity. The Clean Air Act also authorizes the EPA to assess civil penalties against federal agencies for violations of the Act or its implementing regulations. The BLM, as a Federal land manager, has an "affirmative responsibility to protect the air quality and related values (including visibility)" of a PSD Class I area that it administers, and to consider whether a proposed major emitting facility will have an adverse impact on those values. The BLM has a responsibility to consider potential air quality impacts on the public lands through the New Source Review permitting process, especially within mandatory federal PSD Class I areas. The BLM also has a responsibility to conduct General and Transportation Conformity analyses (and when applicable, issue formal Determinations) prior to conducting or approving activities within designated nonattainment or maintenance areas. Certain public land uses on BLM-administered lands may require an air quality permit from the State or local air pollution control district (APCD). Compliance with these permits should be a term and condition of the BLM's authorization, including necessary actions to determine compliance.

A.2 National Air Quality Regulations

The Clean Air Act gives EPA the authority to establish regulations, policy, and guidance to protect air quality. Relevant requirements are found in Title 40 (Protection of Environment) of the Code of Federal Regulations, Parts 50 through 52.

National primary and secondary ambient air quality standards. 40 CFR 50.1 to 50.14
The National primary and secondary ambient air quality standards are set forth in this part. National primary ambient air quality standards define levels of air quality necessary, with an adequate margin of safety, to protect the public health. National secondary ambient air quality standards define levels of air quality necessary to protect the public welfare from any known or anticipated adverse effects of a pollutant. Such standards are subject to revision, and additional primary and secondary standards may be promulgated as necessary to protect the public health and welfare.

Prevention of significant deterioration of air quality. 40 CFR 51.166
Establishes emission limitations and other necessary measures to prevent significant deterioration of air quality, based on Class I or II incremental increases above legally defined baseline values, applicable to construction (or modification) of major stationary sources within attainment or unclassifiable areas. The Federal Land Manager responsible for management of Class I areas have "an affirmative responsibility to protect the air quality related values (including visibility) of any such lands and to consider, in consultation with the Administrator, whether a proposed source or modification would have an adverse impact on such values."

Protection of Visibility. Purpose and applicability. 40 CFR 51.300
Assures reasonable progress toward meeting the national goal of "preventing any future, and remedying any existing, impairment of visibility in mandatory Class I Federal areas which impairment results from manmade air pollution." This addresses visibility impairment in two principal forms: ``reasonably attributable" impairment (i.e., impairment attributable to a single source/small group of sources) and regional haze (i.e., widespread haze from a multitude of sources which impairs visibility in every direction over a large area).

Inspection/Maintenance Program Requirements. Vehicle coverage. 40 CFR 51.356
Employee- and agency-owned vehicles which are operated within an I/M program area shall be tested, regardless of whether the vehicles are registered in the State or local I/M area, except for visiting agency, employee, or military personnel vehicles for a period not to exceed 60 calendar days per year. Proof of compliance (certificate) is required.

Transportation conformity. Implementation plan revision. 40 CFR 51.390
Proposed federal transportation projects (direct or authorized) within designated nonattainment or maintenance areas must analyze (and may be required to conduct a formal Determination process) in order to demonstrate the project would: (1) comply with an implementation plan's purpose of eliminating or reducing the severity and number of violations of the national ambient air quality standards, and achieving expeditious attainment of such standards; and (2) assure that such activities will not: (a) cause or contribute to any new violation of any standard in any area; (b) increase the frequency or severity of any existing violation of any standard in any area; or (c) delay timely attainment of any standard or any required interim emission reductions or other milestones in any area.

General conformity Prohibition. 40 CFR 51.580
No department, agency or instrumentality of the Federal Government shall engage in, support in any way or provide financial assistance for, license or permit, or approve any activity which does not conform to an applicable implementation plan. This includes payment of necessary fees. Within designated nonattainment or maintenance areas, the Federal agency must make a determination that general Federal actions conform to the applicable implementation plan in accordance with the requirements of this subpart before the action is taken (see Transportation Conformity above.)

Prevention of significant deterioration of air quality. 40 CFR 52.21
Requires written notification to a Federal land manager: 1) if a state wants to redesignate lands under their jurisdiction, and allows adequate opportunity for federal comments and recommendations; or 2) upon receipt of any permit application for a new (or modified) proposed major stationary source which may affect a Class I area. The federal land manager may: 1) determine a proposed source would have an adverse impact on the air quality-related values (including visibility) even if the PSD Class I increments are not exceeded; or 2) determine a proposed source would not have an adverse impact on the air quality-related values (including

visibility) even if the PSD Class I increments would be not exceeded. In the first case the permit application would be denied, and in the second case the permit application could be processed.

Implementation plans Violation and enforcement. 40 CFR 52.23
Failure to comply with any approved regulatory provision of an implementation plan, or with any permit condition or permit denial, or with any permit limitation or condition, shall render the person or governmental entity to be in violation and subject to enforcement action.

A.2.1 CRITERIA POLLUTANTS

Criteria pollutants are defined as those pollutants for which the federal and state governments have established air quality standards, or criteria, for concentrations in order to protect public health. The federal National Ambient Air Quality Standards (NAAQS) include both primary and secondary standards for several "criteria pollutants." The primary standards are designed to protect human health with an adequate margin of safety. The secondary standards are designed to protect property and ecosystems from the effects of air pollution. Ambient air is the air that is accessible to the general public, and may not include areas inside fenced industrial areas, or buildings (like factories). Under the federal CAA, NAAQS are established by the EPA. NAAQS have been established for seven criteria pollutants: ozone, respirable particulate matter (PM10), fine particulate matter (PM2.5), carbon monoxide, nitrogen dioxide, sulfur dioxide, and lead. These standards are used to classify all areas as to whether they are in attainment, nonattainment, or unclassified for any of the NAAQS. The State of California has established California Ambient Air Quality Standards for the same federal criteria pollutants, plus an additional 3 pollutants (hydrogen sulfide, sulfates, and visibility reducing particles). Current federal air quality standards are indicated on the EPA website http://www.epa.gov/air/criteria.html. State ambient air quality standards are provided on the CARB website at http://www.arb.ca.gov/research/aaqs/aaqs2.pdf.

Air pollutants covered by federal and state ambient air quality standards can be categorized by the nature of their toxic effects as follows:

- Irritants (such as ozone, particulate matter, nitrogen dioxide, sulfur dioxide, sulfate particles, and hydrogen sulfide) that affect the respiratory system, eyes, mucous membranes, and skin;
- Asphyxiants (such as carbon monoxide and nitric oxide) that displace oxygen or interfere with oxygen transfer in the circulatory system, affecting the cardiovascular and central nervous systems;
- Necrotic agents (such as ozone, nitrogen dioxide, and sulfur dioxide) that directly cause cell death; or
- Systemic poisons (such as lead particles) that affect a range of tissues, organs, and metabolic processes.

Air quality is affected by both the amount and location of pollutant emissions and by meteorological conditions that influence movement and dispersal of pollutants. Atmospheric conditions, such as wind speed, wind direction, and air temperature gradients, along with local topography, provide the

link between air pollutant emissions and air quality. Air pollution generally refers to additional chemical compounds, gases and particulates that may have been added to the air. Pollutant sources can be from vegetation (biogenic, geological (geogenic), or man caused (anthropogenic). Pollution can also be classified as to the category of the emissions source. The two major categories of emissions are mobile sources and stationary sources. Mobile sources include on-road automobiles and trucks, off highway vehicles (OHV), aircraft, trains, construction equipment and recreational vehicles. Stationary sources include point sources such as large stack emissions from industrial sources and power generation, and area sources which represent an accumulation of many small point sources over a larger area.

Specific monitoring protocols, known as reference (or equivalent) methods, must be followed to determine compliance with NAAQS and California AAQS. CARB and regional air districts perform regulatory monitoring throughout the State of California for CO, NO_2, O_3, PM10 and PM2.5. Generally, CARB monitors smaller districts in the state. Within the Planning Area, regulatory monitoring is conducted primarily by the San Joaquin Valley Unified Air Pollution Control District (APCD), San Luis Obispo County, Santa Barbara County, and Ventura County APCDs. Descriptions of air quality indicators that are monitored and their effects follow:

- Carbon Monoxide (CO): CO is essentially inert to plants and materials but can have significant effects on human health because it combines readily with hemoglobin and thus reduces the amount of oxygen transported in the bloodstream. Effects on humans range from slight headaches to nausea to death.

  The major sources of carbon monoxide are combustion processes, such as fuel combustion in motor vehicles and industrial processes, agricultural burning, prescribed burning, and wildfires. Motor vehicles and other internal combustion engines are the dominant source of CO emissions in most areas. High CO levels develop primarily during winter when periods of light winds combine with ground-level temperature inversions (typically from the evening through early morning). These conditions result in reduced dispersion of vehicle emissions. CO is also created during refuse, agricultural, and wood stove burning, and by some industrial processes.

  Carbon monoxide is a public health concern because it combines readily with hemoglobin in the blood and thus reduces the amount of oxygen transported to body tissues. Relatively low concentrations of carbon monoxide can significantly affect the amount of oxygen in the bloodstream because carbon monoxide binds to hemoglobin 200 to 250 times more strongly than oxygen. Both the cardiovascular system and the central nervous system can be affected when 2.5 to 4.0 percent of the hemoglobin in the blood is bound to carbon monoxide rather than to oxygen. Because of its low chemical reactivity and low solubility, indoor carbon monoxide levels usually are similar to outdoor levels.

- Lead (Pb): The primary historical source of lead emissions has been the use of leaded gasoline in motor vehicles, as well as certain industrial sources. Because leaded gasoline has been phased out of use, the processing of metals containing trace amounts of lead is now the

primary source of lead emissions. The highest levels of lead in air are generally found near lead smelters. Other stationary sources include waste incinerators, utilities, and lead-acid battery manufacturing plants. The effects of lead exposure include brain and other nervous system damage, and children exposed to lead are especially at risk.

- Nitrogen Dioxide (NO_2): Oxides of nitrogen, including nitric oxide (NO) and NO_2 are formed when naturally occurring atmospheric nitrogen and oxygen are combusted with fuels in automobiles, power plants, industrial processes, as well as home and office heating. At high exposures, NO_2 causes respiratory system damage of various types, including bronchial damage. Its effects are displayed by increased susceptibility to respiratory infection and lung function changes. Within the atmosphere, NO_2 may be seen as reddish-brown haze, and also contributes to visibility impacts in distant sensitive areas. NO_2 (and other NOx compounds) also form nitric acid, a component of atmospheric deposition (e.g., acid rain.).

- Ozone (O_3): Ozone is not emitted directly, but is formed by a photochemical reaction of precursor air pollutants emitted into the atmosphere. Ozone precursors, which include VOC and NOx, react in the atmosphere in the presence of sunlight to form ozone. The ozone precursors VOC and NOx are emitted by mobile sources and by stationary combustion equipment. Ozone is produced year-round, but because photochemical reaction rates depend on the concentrations of NOx and VOC, as well as the intensity of ultraviolet light and air temperature, ozone concentrations are generally greatest during the summer in urban areas. Ozone concentrations can be elevated in winter snow-covered rural areas. Ozone is a severe eye, nose, and throat irritant. Ozone is a potent oxidant that increases susceptibility to respiratory infections and may cause substantial damage to vegetation (leaf discoloration and cell damage) and other materials (attacking synthetic rubber, textiles, paints, etc).

  Common fuel combustion sources include fuel combustion in motor vehicles, fuel combustion in industrial processes, agricultural burning, prescribed burning, and wildfires. Combustion processes are the major source of emissions for nitrogen oxides.

- Particulate Matter: Particulate matter includes PM_{10} (inhalable particles and aerosols less than 10 microns in diameter) and PM2.5 (fine particles and aerosols less than 2.5 microns in diameter). The combustion sources tend to produce smaller particulates (less than 5μ) while fugitive sources tend to produce larger particles (larger than 5μ).

  - PM_{10}: Particulate matter (PM_{10}) impacts include deposition (soiling), localized visibility reduction, potential corrosion, and health effects from particulate matter which is small enough to reach the lungs when inhaled. PM_{10} emissions are generated by a variety of sources including agricultural activities, industrial emissions, and road dust suspended by vehicle traffic. Within the planning area, primary sources of PM_{10} include smoke from wildland and prescribed fire, residential wood burning, street sand, physically disturbed soils, and unpaved road dust.

- $PM_{2.5}$: Fine particulate matter (smaller-sized $PM_{2.5}$) poses the greatest health concern because it can pass through the nose and throat and get deep into the lungs. However, $PM_{2.5}$ emissions are primarily generated by internal combustion and diesel engines, high slit/clay content soils, and secondary aerosols formed by chemical reactions in the atmosphere. $PM_{2.5}$ also contributes to visibility impacts in distant sensitive areas.

The major emission source categories for suspended particulate matter include combustion sources (fuel combustion in motor vehicles and industrial processes, agricultural burning, prescribed burning, and wildfires); soil disturbance by construction equipment, recreational and other vehicles and equipment; mining and other mineral extraction activities; and wind erosion from exposed soils and sediments. Suspended particulate matter is also formed by the types of atmospheric chemical reactions that produce ozone and acidic compounds.

The physical and chemical composition of suspended particulate matter is highly variable, resulting in a range of public health concerns. Many components of suspended particulate matter are respiratory irritants. Public health concerns for suspended particulate matter focus on the particle size ranges likely to reach the lower respiratory tract or the lungs. Inhalable particulate matter (PM_{10}) represents particle size categories that are likely to reach either the lower respiratory tract or the lungs after being inhaled. Fine particulate matter ($PM_{2.5}$) represents particle size categories likely to penetrate to the lungs after being inhaled. The "10" in PM_{10} and the "2.5" in $PM_{2.5}$ are not upper size limits but refer to the particle size range collected with 50 percent mass efficiency by certified sampling devices; larger particles are collected with lower efficiencies, and smaller particles are collected with higher efficiencies.

In addition to public health impacts, suspended particulate matter causes a variety of material damage and nuisance effects: abrasion; corrosion, pitting, and other chemical reactions on material surfaces; soiling; and transportation hazards due to visibility impairment.

- Sulfur Dioxide (SO_2): Sulfur dioxide is a colorless gas having a pungent odor. Prolonged exposure to high levels of SO_2 can lead to respiratory failure, and plays an important role in the aggravation of chronic respiratory illnesses such as asthma. SO_2 is emitted primarily from stationary sources which burn fossil fuels (i.e.; coal and oil) containing trace amounts of elemental sulfur. Other sources of SO_2 include metal smelters and petroleum refineries. SO_2 is also emitted on occasion from natural sources such as volcanoes. In the atmosphere, SO_2 converts to sulfuric acid, a component of atmospheric deposition (acid rain), as well as forming secondary aerosols, thus contributing to visibility impacts in distant sensitive areas.

  Nitrogen and Sulfur Compounds: Other air pollutants of interest include nitrogen compounds such as particulate nitrate (NO_3), nitric acid (HNO_3) and ammonium (NH_4), and sulfur compounds such as particulate sulfate (SO_4) and sulfur dioxide (SO_2). Although monitoring of these air pollutants typically does not adhere to reference methods, these concentration data contribute to our understanding of air quality.

- Volatile Organic Compounds (VOC): VOCs include a variety of chemicals, some of which may have adverse health effects. Concentrations of many VOCs are consistently higher indoors than outdoors. VOCs are emitted from thousands of products, including paints, cleaning supplies, pesticides, building materials, office equipment, glues and permanent markers (EPA, 2009; http://www.epa.gov/iaq/voc.html).

Air pollutant concentration usually refers to the mass of pollutant present in a volume of air and is often reported in units of micrograms per cubic meter (µg/m3). Concentration may also be reported on a volume basis as parts per million or parts per billion (ppb). Air pollution concentration monitoring networks in the Planning Area and statewide include the State & Local Air Monitoring System (SLAMS), ozone and Photochemical Assessment Monitoring Stations (PAMS), Tribal monitoring networks, and the Clean Air Status & Trends Network (CASTNet). SLAMS stations are located in urban areas and measure "criteria pollutants". The SLAMS network stations are operated by respective air districts in the Planning Area to establish compliance with regulatory concentration standards. Monitoring stations are listed and mapped on the ARB website at http://www.arb.ca.gov/adam/netrpt/. CASTNet stations are located in remote areas and measure concentrations of compounds that are of interest to ecosystem health. The status of CASTNet monitoring stations and their locations are indicated at http://java.epa.gov/castnet/epa_jsp/sites.jsp.

Emissions inventory data from these monitoring networks are utilized to determine if areas meet federal standards (NAAQS). These standards are used to classify all areas as to whether they meet (attain) or exceed (nonattainment) the thresholds established for these pollutants. Based on current EPA designations, the pollutants of concern in the Planning Area are 8-hour Ozone, PM 10, and PM 2.5 (Table 3.1-3.). For analysis purposes, the RMP air resource analysis focuses on nonattainment pollutant emissions. The remaining criteria pollutants are either unclassified, or in attainment with NAAQS in the Planning Area.

A.2.2 Hazardous Air Pollutants

Hazardous air pollutants (HAPs) are those pollutants that are known or suspected to cause cancer or other serious health problems, such as chronic respiratory disease, reproductive disorders or birth defects. The EPA has classified 189 air pollutants as HAPs, including formaldehyde (CH_20), benzene, toluene, ethyl-benzene, xylene, and n-hexane. Air quality programs based on regulation of hazardous substances typically address chemicals used or produced by limited categories of industrial facilities. Programs regulating HAPs focus on substances that alter or damage the genes and chromosomes in cells (mutagens), substances that affect cells in ways that can lead to uncontrolled cancerous cell growth (carcinogens), substances that can cause birth defects or other developmental abnormalities (teratogens), substances with serious acute toxicity effects, and substances that undergo radioactive decay, resulting in the release of ionizing radiation. Federal air quality management programs for HAPs focus on setting emission limits for particular industrial processes rather than setting ambient exposure standards. Federal emission standards for HAPs have been promulgated as National Emission Standards for Hazardous Air Pollutants (NESHAPS) and as

Maximum Available Control Technology (MACT) standards. The NESHAPS and MACT standards are implemented through federal and state air quality permit programs.

A.3 CONFORMITY DETERMINATION

Section 176(c) of the Clean Air Act requires federal agencies to ensure that actions undertaken in nonattainment or maintenance areas are consistent with the Clean Air Act and with federally enforceable air quality management plans. The EPA has promulgated separate rules that establish conformity analysis procedures for highway/mass transit projects (40 CFR Part 93, Subpart A) and for other (general) federal agency actions (40 CFR Part 93, Subpart B). General conformity requirements are potentially applicable to many federal agency actions but apply only to those aspects of an action that involve ongoing federal agency responsibility and control over direct or indirect sources of air pollutant emissions.

The EPA conformity rule establishes a process that is intended to demonstrate that the proposed federal action:

- Would not cause or contribute to new violations of federal air quality standards;
- Would not increase the frequency or severity of existing violations of federal air quality standards; and
- Would not delay the timely attainment of federal air quality standards.

The EPA general conformity rule applies to federal actions occurring in nonattainment or maintenance areas when the total direct and indirect emissions of nonattainment pollutants (or their precursors) exceed specified thresholds. The conformity rule applies to BLM management proposed in five federal nonattainment areas and one federal maintenance area. The emission thresholds that trigger requirements of the conformity rule are called de minimis levels (refer to Table 3.1-4). Emissions associated with stationary sources that are subject to permit programs incorporated into the SIP are not counted against the de minimis threshold.

Compliance with the conformity rule can be demonstrated in several ways. Compliance is presumed if the net increase in direct and indirect emissions from a federal action would be less than the relevant de minimis level. If net emissions increases exceed the relevant de minimis value, a formal conformity determination process must be followed. Federal agency actions subject to the general conformity rule cannot proceed until there is a demonstration of consistency with the SIP through one of the following mechanisms:

- By dispersion modeling analyses demonstrating that direct and indirect emissions from the federal action will not cause or contribute to violations of federal ambient air quality standards;
- By showing that direct and indirect emissions from the federal action are specifically identified and accounted for in an approved SIP;

- By showing that direct and indirect emissions associated with the federal agency action are accommodated within emission forecasts contained in an approved SIP;
- By showing that emissions associated with future conditions will not exceed emissions that would occur from a continuation of historical activity levels;
- By arranging emission offsets to fully compensate for the net emissions increase associated with the action;
- By obtaining a commitment from the relevant air quality management agency to amend the SIP to account for direct and indirect emissions from the federal agency action; or
- In the case of regional water or wastewater projects, by showing that any population growth accommodated by such projects is consistent with growth projections used in the applicable SIP.

BLM utilizes a ten-step process for demonstrating conformance with applicable SIPs. These ten steps are: (1) Determine spatial and jurisdiction applicability, (2) Describe SIP status and content, (3) Develop any necessary background information, (4) Develop air quality impact analysis, (5) Compare activity to applicable SIP provisions and rules, (6) Develop conclusion statement, (7) Prepare a formal determination, (8) Conduct an agency/public review, (9) Submit the determination to appropriate regulatory agencies and (10) Archive the results. Steps 1-6 have been completed as part of this EIS. In accordance with (40 CFR 93.153 (b) (1&2)), Steps 7-10 of this process will be completed for the preferred alternative for ozone, prior to issuance of the Record of Decision.

SIPs are not single documents; rather they are compilations of new and previously submitted plans, programs (such as air quality monitoring, modeling, permitting, etc.), district rules, state regulations, and federal emission controls. Although SIPs are limited to measures necessary to attain NAAQS, SIP provisions and commitments are federally enforceable. In California, local APCDs and/or regional air quality management districts are responsible for developing the overall attainment strategy in their respective geographic areas. The ARB compiles air quality plans for nonattainment areas into the SIP submitted to EPA. Many of California's air quality plans rely on the same core set of control strategies, including emission standards for motor vehicles and stationary internal combustion engines, fuel regulations, and limits on emissions from consumer products. The ARB California SIP webpage includes links to each plan by pollutant and nonattainment area (http://www.arb.ca.gov/planning/sip/sip.htm).

CFR Title 40, Chapter I, Part 52, Subpart F, Section 52.220, lists all the items and elements included in the California SIP. The control measures in ARB's State Strategy (adopted September 27, 2007) target passenger vehicles, trucks, construction equipment, agricultural equipment, goods movement, fuels, recreational vehicles and boats, and pesticides (refer to Appendix H of California's 2007 SIP). A comprehensive list of measure descriptions in the State Strategy is available at http://www.arb.ca.gov/planning/sip/2007/2007sip.htm. Existing district and statewide emission inventories for air basins within the Planning Area were utilized by BLM to determine applicable emission source categories. Areas meeting NAAQS are not required to prepare SIPs. Attainment

areas within the Planning Area include Inyo and Monterey Counties; no emission inventories were reviewed for these attainment areas.

Each implementation plan includes emission inventories and identifies source categories and control measures that bring actions into conformance with attainment or maintenance strategies. During SIP development air quality data, emissions inventory, and computer modeling results are evaluated to determine the rules and programs needed to reach federal standards by specific deadlines. Rules and programs are then implemented to reduce unhealthful pollutant concentrations. BLM management actions and authorized activities must comply with all permitting requirements of the respective air district, including current controls (e.g. Rules and Regulations). Comprehensive rule lists by air district are available on line at http://www.arb.ca.gov/drdb. Applicable district control measures and rules are summarized by SIP below.

Existing SIPs were evaluated in determining the conformance of BLM management activities associated with four broad categories of emissions: 1) energy development (oil and gas, non-energy minerals); 2) vehicle use on unpaved roads; 3) wildland fire ecology and fuels management; and 4) livestock grazing. The applicable implementation plans include the *San Joaquin Valley Air Pollution Control District 2007 Ozone Plan*, the *San Joaquin Valley Air Pollution Control District 2007 PM10 Maintenance Plan and Request for Redesignation*, the *San Joaquin Valley Air Pollution Control District 2008 PM2.5 Plan*, and the *Ventura County Air Pollution Control District FINAL Ventura County 2007 Air Quality Management Plan.* Some anticipated BLM emissions contribute to larger source categories, as identified in existing emission inventory data. Examples of applicable source categories include Oil and Gas Production, Oil and Gas Production (Combustion), and Miscellaneous Processes such as Construction and Demolition, Paved Road Dust, Unpaved Road Dust, Fugitive Windblown Dust, Fires (to a limited extent), On-Road Motor Vehicles, and Other Mobile Sources. The SIPs deemed applicable are summarized below.

A.3.1 San Joaquin Valley Air Pollution Control District 2007 Ozone Plan

Based on the ARB 2009 Almanac of Emissions and Air Quality, air quality in the San Joaquin Valley air basin shows a dramatic improvement. Ozone levels in the San Joaquin Valley have decreased approximately 10% since 1990 (ARB 2009). Improved air quality is indicated by air quality data and emissions inventories, grouped by source categories. Emission inventories are used to develop control strategies; determine effectiveness of permitting & control programs; provide input into various models (ambient receptor, aerosol, photochemical, and statistical models); and to fulfill reasonable further progress (RFP) requirements.

EPA designated and classified the SJVAB as serious nonattainment for the federal 8-hour ozone standard, effective June 15, 2004. As a serious area, the SJV is required to attain the standard as expeditiously as practicable, but no later than June 15, 2013. Although this is the first SJV plan to address 8-hour ozone, the SJVAPCD has adopted ozone plans in the past. Although the 1-hour ozone standard was revoked by EPA in 2005, the SJVAPCD continues to implement control measures identified and contained in the *Extreme Ozone Attainment Demonstration Plan* (adopted

October 8, 2004). Control measures cannot be removed from the SIP solely because of revocation, and the measures included in the 1-hour ozone plan will also contribute to the District's 8-hour ozone strategy.

Consistent with CAA Section 182(c)(2)(A) requirements, federally approved photochemical modeling was completed by the San Joaquin Valley APCD for attainment planning(refer to Chapter 3 and Appendix F of the *2007 Ozone Plan*). These modeling results are utilized to develop a corresponding control strategy

Since ozone is formed by a chemical reaction with NOx or VOCs, there is no ozone emission inventory. As such, the control strategy for ozone requires emission inventory for NOx and VOCs. The *2007 Ozone Plan* calls for a 75% NOx reduction (already reduced by nearly 50% as of plan date). NOx reductions will be achieved by implementing regulatory measures for mobile & stationary sources. Regulatory measures are expected to reduce NOx by 61% in 2023; the remaining 14% reduction would come from incentives and the deployment of advanced technologies. Full plan implementation will reduce VOC emissions by 25% through regulatory measures. As the plan is implemented, over 50% of Valley's population will see attainment in 2015; over 90% of the Valley's population is expected to reach attainment in 2020.

Improvements in air quality are the result of effective reductions resulting from over 500 district and state rules and rule amendments, including NSR and ISR. However, since 80% of Valley's total NOx emissions are from mobile sources, the bulk of necessary emission reductions must come from state and federal control measures for mobile sources. Mobile source emissions will be reduced by implementing land-use and transportation policies that reduce vehicle miles traveled. Continued reduction of mobile source emissions is critical to the plan's success and the San Joaquin Valley ability to meet NAAQS for ozone (and PM 2.5).

Beyond the 500 plus rules and amendments, innovative programs to reduce mobile source emissions are detailed in Chapter 8 of the *2007 Ozone Plan.* All local control measures proposed in the *2007 Ozone Plan* will be adopted before 2012; the plan addresses the 8-hour ozone standard. Examples of these programs include Green Contracting, Expanded Spare–the-Air, Employer based trip reduction, Heat Island Mitigation, Alternative Energy Production, Energy Conservation, Enhanced ISR, and Advanced Emission Reduction Options (AERO)

A.3.2 San Joaquin Valley Air Pollution Control District 2007 PM10 Maintenance Plan and Request for Redesignation

The PM attainment strategy focused on reducing directly emitted PM10 and NOx. Measures implemented in *2003 PM10 Plan* presented the attainment strategy by December 31, 2010. The SJVAPCD has adopted all control measure commitments identified in the amended *2003 PM10 Plan* (refer to Appendix B, *2007 Maintenance Plan*). Adopted measures resulted in a decline in PM10 air pollution in the San Joaquin Valley. The *2006 PM10 Plan* re-evaluated the Valley's control strategy with updated emission inventory, air quality monitoring data and air quality modeling. The *2006 PM10* Plan updated the 2003 modeling analysis protocol and confirmed the strategy to attain the

PM10 NAAQS before the 2010 deadline. The modeling protocol follows EPA revised guidance and can be found in the *Amended 2003 PM10 Plan*, Appendix K.

PM10 emissions decreased, in spite of substantial population growth and vehicle miles traveled. Valley's improvement in PM10 air quality was due to permanent and enforceable emission reductions achieved through District & ARB Rules & Regulations. In 2006, EPA issued a Final Rule and verified through Federal Register notice all monitors in the San Joaquin Valley attained the PM10 NAAQS. Maintenance of the standard is expected to continue as a result of other plan control measures and reductions; for example, the *SJVAPCD 2008 PM2.5 Plan* (proposed) will also lower PM10 emission inventories in the future.

The *2007 PM10 Maintenance Plan* includes an attainment emissions inventory, maintenance demonstration & verification of continued attainment by modeling 10 years out. The plan also includes detailed conformity calculations and evaluates future emissions growth and control up to 2020. For conformity purposes, the (motor vehicle) emissions budget for PM10 includes regional entrained dust from travel on paved and unpaved roads, vehicular exhaust, and road construction (Sec 93.122(d)(2) of 40 CFG Part 51, Subpart T requires that PM10 from construction related fugitive dust be included in the regional PM10 emission analysis). The PM10 Maintenance Plan provides for continued attainment through 2030, and is likely to exceed the life span of our RMP. Continued attainment will be verified through Annual Reports (per the 2007 Ozone Plan, Ch. 5).

As identified in the SJVAPCD *PM 10 Maintenance Plan*, compliance with Regulation VIII will adequately reduce PM10 emissions associated with BLM management actions and program activities. The current control measures established and implemented to reduce PM10 emissions apply to construction equipment, vehicles, and unpaved road dust.

A.3.3 San Joaquin Valley Air Pollution Control District 2008 PM2.5 Plan (proposed March 13, 2008)

The CAA requires states to attain the 1997 PM2.5 standard beginning in 2010, and no later than April 5, 2015. The *2008 PM2.5 Plan* (proposed March 13, 2008) builds upon the *2007 Ozone Plan* and focuses on the strategy to attain the 1997 PM 2.5 standard. In 2006 EPA revised the 24-hr standard for PM2.5 (from 65mg/m3 in 1997 to 35 mg/m3); as a result, a SIP for the 2006 PM2.5 standard is due to EPA in 2012-2013. Additional actions to meet the revised PM2.5 standard will accelerate compliance with the ozone standard. The ozone control strategy to attain 8-hr NAAQS is determined to include NOx emissions reductions close to what are needed for PM2.5 standards; aligning of PM2.5 and ozone efforts will ensure that resources are used efficiently and effectively.

The *2008 PM2.5 Plan* analyzes a comprehensive and exhaustive list of regulatory and incentive based measures to reduce ozone precursor emissions throughout the San Joaquin Valley and identifies new controls for further PM2.5 and precursor (NOx & SOx) reductions. The PM2.5 control strategy includes regulatory control measures for stationary sources, incentive based strategies, and innovative programs, in conjunction with local, state, and federal partnerships. The SJVAPCD currently manages agricultural burning, prescribed burning, and residential wood burning to avoid

adding smoke emissions when meteorological conditions are unfavorable. The *2008 PM2.5 Plan* further proposes measures (trip reduction, green contracting, and enhanced Indirect Source Review) to provide additional mobile source emissions reductions.

PM2.5 levels have been decreasing since monitoring began in 1999 through District emission controls. Air quality improvement is challenging in the SJV, made more difficult by population growth that comes with inherent emissions increases and jurisdictional limits that restrict the comprehensiveness of regional efforts. In spite of these challenges, the *2008 PM2.5 Plan* indicates that the SJV complied with 24-hr standard, based on data from 2004-2006. Improvements in air quality have resulted from the regulation of agricultural operations, residential fireplace use, and stringent limits on engines, boilers, turbines, furnaces, etc. Such reductions are deemed a major accomplishment, given a 37% population increase over the same time period.

The *2008 PM2.5 Plan* estimates that in 2011, 71% of the San Joaquin Valley's population resides in areas that meet federal standards. Analysis of modeling results and control measures (as of 2008 plan date) shows the SJV can attain the annual PM2.5 NAAQS by 2014. Modeling approaches are consistent with EPA guidance and utilize an annual emission inventory (SIP planning projections). The EPA list of suggested PM2.5 control measures is included in Chapter 6 and is detailed in Appendix I of the *2008 PM2.5 Plan*; most federal control measures have corresponding District equivalents. Since 80% of NOx emissions come from mobile sources (heavy-duty diesel trucks), this requires additional reduction from mobile sources, under state & federal agency jurisdiction.

State control measures include Expanded Off-Road Recreational Vehicle Emissions Standards; Vapor Recovery for Above Ground Storage Tanks; Cleaner In-Use Heavy Duty Truck and Off-Road Equipment; Heavy Duty truck idling limits; Carl Moyer Program reductions; and passenger vehicle and truck measures in the Adopted 2007 State Strategy. Local PM2.5 control measures that are relevant to BLM activities and programs include Indirect Source Review (ISR); existing Indirect Source Mitigation; Boilers, Steam Generators and Process Heaters; and Prescribed Burning and Hazard Reduction Burning.

A.3.4 VENTURA COUNTY AIR POLLUTION CONTROL DISTRICT FINAL VENTURA COUNTY 2007 AIR QUALITY MANAGEMENT PLAN

Local, State and federal control programs together have resulted in dramatic improvements in ozone air quality over the last 20 years. The number of federal 8-hour exceedance days in Ventura County decreased 85 percent between 1988 and 2006. Ambient concentrations declined about 30 percent during this same period. Existing control programs were expected to reduce the Ventura County's ROG and NOx emissions by about eight and ten percent, respectively, by the year 2010. Emissions trends and the ambient trends both indicate that ROG and NOx precursors have decreased over time; these decreases have resulted in improved ozone air quality. These trends are expected to continue improving with implementation of South Coast and statewide emissions control strategies.

Ventura County is currently classified as a Moderate nonattainment area for the federal 8-hour ozone standard and has a nominal attainment date of June 15, 2010. CAAA Section 181(b)(3) allows

federal nonattainment areas to voluntarily reclassify (bump up) to higher nonattainment classifications (e.g., from moderate to serious). This provision gives areas additional time to attain if they are doing everything practicable to attain but are not able to do so by their statutory attainment dates. The Ventura County Air Pollution Control District requested a reclassification ("bump up") to Serious, with an attainment date of June 15, 2013. Section 182(c)(2)(A) of the federal CAAA requires that moderate and above ozone nonattainment areas attain the federal 8-hour ozone standard by specific dates based on their ozone nonattainment designations. Moreover, serious and above ozone nonattainment areas, including Ventura County, must use a photochemical grid model to show attainment. The photochemical modeling protocol is provided in Appendix D of the 2007 AQMP.

Based on photochemical modeling and supporting analyses, Ventura County can expect to reduce its design value to 0.084 ppm and attain the federal 8-hour ozone standard by 2013. Attainment by 2013 can be projected because emissions estimates and ambient precursor data show that both ROG and NOx have declined, demonstrating the effectiveness of past emissions reductions. In addition, emissions estimates indicate a continued decline in precursor emissions over the next decade. The emissions inventory indicates that the adopted measures from ARB's mobile source program will provide emissions reductions beyond those needed for Ventura County's RFP demonstration. Specifically, the Oil & Gas Production emission inventory category forecasts a decline in ROG through 2012 although NOx emissions are expected to be fairly consistent. Detailed analysis indicates furthermore that existing rules meet the state CAA "every feasible measure" requirement.

Current control measures identified in the Ventura County Air Quality Management Plan (AQMP) for ozone that are applicable to BLM management activities include Boilers, Steam Generators and Heaters; Crude Oil Storage Tank Degassing Operations; Vapor Recovery for Above Ground Storage Tanks; Soil Decontamination Operations; and Managed Burning and Disposal. In addition, a new rule under development will address the control of VOCs from oil wells prior to repair work in Ventura County. Unlike other district attainment emissions projections, Ventura County's include growth factors for livestock waste (range).

A.4 Expected Emissions

Projected Ozone, PM 10 and PM2.5 emissions were modeled using the following calculations:

A.4.1 Calculation of Emissions from Energy Development

As part of the inventory provided by the ARB there is information on the methodology used to estimate the inventory data. The ideal would be to have actual measurements of all sources. In reality this is impossible. As a result, much of the information is generated from models. The general equation for emission estimation is:

$$E = A \times EF \times (1-ER/100)$$

where:

E = emissions,

A = activity rate,

EF = emission factor, and

ER= overall emission reduction efficiency, %.

ER is further defined as the product of the control device destruction or removal efficiency and the capture efficiency of the control system. When estimating emissions for a long time period (e. g., one year), both the device and the capture efficiency terms should account for upset periods as well as routine operations.

An emission factor is a representative value that attempts to relate the quantity of a pollutant released to the atmosphere with an activity associated with the release of that pollutant. These factors are usually expressed as the weight of pollutant divided by a unit weight, volume, distance, or duration of the activity emitting the pollutant (e. g., kilograms of particulate emitted per megagram of coal burned). Such factors facilitate estimation of emissions from various sources of air pollution. In most cases, these factors are simply averages of all available data of acceptable quality, and are generally assumed to be representative of long-term averages for all facilities in the source category (i. e., a population average).

The calculation of estimated emission from oil and gas development is a complicated process. There is no set formula that allows one to crank in numbers of expected wells and have an expected emission to pop out the end number. EPA and a number of others indicate that the best data comes from direct measurements of emissions from a source. Data exists on measurements taken from the various operations associated with oil and gas production. The USEPA lists the following steps in Oil and Gas operations: Exploration and production, Processing, Combustion, Storage and transport. Each of these steps consists of a number of variable components. As an example, production consists of site preparation, mobilization, drilling, testing, finishing, demobilization, equipment installation and pumping. Each of these components is further broken down into jobs such as development of access if necessary, heavy equipment for pad prep if necessary, support vehicle use and so on. There are many variable in the process including what size of drill is necessary and the design of the drill rig and its power source. The state ARB lists 66 different engines and emissions for drill rigs. There are emission factors for various types of valves (which average 15 per site). The BLM data indicates that most of the wells would be in shallow formations where little site preparation is necessary and the drilling normally only takes 2 to 4 days.

At the RMP planning stage most of the specific information that would be inputs to models is unknown. As an alternative BLM has chosen to use existing inventory data and apply percentage change to achieve an estimate of expected emissions. The following information is from the state ARB.

The proposed action is projected to result in an estimate of 4,000 wells over the next 10 year period or an average of 400 wells per year. The number of wells authorized has varied considerably over the last 10 years. For air analysis purposes, approximately 5% of the wells are projected to be in the South Central Air Basin while the remaining 95% would be in the San Joaquin Valley Air Basin. In 2010, there were approximately 360 approvals issued. It should be noted that not all wells authorized in a given year are drilled in the same calendar year, and some never get drilled. This is an increase of 40 wells per year (10%) over the no action alternative. Based upon existing estimates for oil and gas development, the proposed action to drill an additional 40 new wells per year would generate an estimated 7.4 tons per year of PM10 emissions and 112.3 tons of NOx per year in the SJVAB and 0.5 tons per year of PM10 and 8.2 tons per year of NOx in the South Central Coast Air Basin.

Table A-1
Existing Inventory Data for Criteria Pollutants (California ARB)

Activity (Source)	Pollutant	Total Emissions from Inventory (tons/year)	Emissions from BLM (tons/year)	% of Total Inventory	Location (Air District)	Notes
	NOx	11372.5	1122.7	9.9%		
	VOC	13379.2	818.8	6.1%	SJVAPCD	
	PM10	950.4	74.2	7.8%		
	PM2.5					
Oil and Gas Production in the Planning Area	NOx VOC PM10 PM2.5	Data for the Planning Area portion is not available.	0	0%	MBUAPCD	This area is classified "attainment" for all criteria pollutants.
	NOx	811.7	82.4	10.1%		
	VOC	905.1	10.3	1.1%	VCAPCD	
	PM10	44.3	4.7	10.6%		
	PM2	42.9	4.7	10.9%		

Table A-2
BLM and Total Emissions by Criteria Pollutant

Pollutant	Total Emissions from Inventory (tons/year)	Emissions from BLM (tons/year)	% Increase Expected on BLM	Projected Emissions from BLM	Location (Air District)	Notes
NOx	11372.5	1122.7		112.3		
VOC	13379.2	818.8	10%	81.9	SJVAPCD	
PM10	950.4	74.2		7.0		
NOx	Data for the Planning Area portion is not available.	0	0	0	MBUAPCD	This area is classified "attainment" for all criteria pollutants
VOC				0		
PM10				0		
PM2.5				0		
NOx	811.7	82.4	10%	8.2	CSCAB	
VOC	905.1	10.3		1		
PM10	44.3	4.7		0.5		
PM2	42.9	4.7		0.5		

A.4.2 Calculation of Emissions from Unpaved Roads

From USEPA AP-42 (11.2.2 Fugitive sources Unpaved road dust.)
http://www.epa.gov/ttnchie1/ap42/

The Emissions factors are estimated with the following equation:

$$\text{Emissions}=K(s/12)(S/30)(W/3)^{0.7}(w/4)^{0.5}(d/365)$$ Emissions are in lbs of PM (<30 microns)

Where K =5.9 for lbs/VMT (VMT = vehicle miles traveled)

s = Silt content of road surface

S = Vehicle Speed (default is 30 mph)

w = number of wheels

W = Vehicle weight in tons

d = number of dry day per year where there is <0.01 inches of rain

Calculations:

s = 5 to 15% (from USEPA) used **10**%

S = 30 mph

w = 2 for motorcycles and 4 for others recreation vehicles (like ATVs, 4x4 and buggies)

W = 0.23 for motorcycles (460 lbs with rider) 0.4 for ATVs (800 lbs w/rider) and 2.5 for others (5,000 lbs)

d = 325 40 days with rain (from USEPA AP-42 figure 11.2.1-1)

Motorcycles:

$E=5.9(10/12)(30/30)(0.23/3)^{0.7}\ (2/4)^{0.5}\ (325/365)$ E = 0.513 lbs PM per VMT

ATVs

$E=5.9(10/12)(30/30)(0.4/3)^{0.7}\ (4/4)^{0.5}\ (325/365)$ E = 1.068 lbs PM per VMT

Other recreation vehicles

$E=5.9(10/12)(30/30)(2.5/3)^{0.7}\ (4/4)^{0.5}\ (325/365)$ E = 3.853 lbs PM per VMT

The BLM travel management alternatives represent a reduction in the number of designated routes; this is consistent with the local APCD attainment strategy for ozone which recognizes that mobile source emission reductions will be achieved by implementing land use policies that reduce vehicle miles traveled (refer to Table A-3 below).

Table A-3
Emissions of PM PM10 and PM2.5 by Alternative for Unpaved Roads

Alternative	Miles of Road	VMT (miles X 10)[1]	Emission Factor	Emissions PM TPY	Emissions [2] PM10 TPY	Emissions [3] PM2.5 TPY	% change
A (existing)	1,895	6,317	0.513 (MC)	1.6	0.6	0.2	
		6,317	1.068 (ATV)	3.4	1.2	0.3	
		6,317	3.853 (other)	12.2	4.4	1.2	
		Total		**17.2**	**6.2**	**1.7**	**0%**
B	770	2,567	0.513 (MC)	0.7	0.25	0.07	
		2,567	1.068 (ATV)	1.4	0.5	0.1	
		2,567	3.853 (other)	4.9	1.8	0.5	
		Total		7	2.55	0.67	-59%
C	656	2,187	0.513 (MC)	0.6	0.22	0.06	
		2,187	1.068 (ATV)	1.2	0.4	0.1	
		2,187	3.853 (other)	4.2	1.5	0.4	
		Total		6	2.12	0.56	-65%
D	656	2,187	0.513 (MC)	0.6	0.22	0.06	
		2,187	1.068 (ATV)	1.2	0.4	0.1	
		2,187	3.853 (other)	4.2	1.5	0.4	
		Total		6	2.12	0.56	-65%
E	1,683	5,610	0.513 (MC)	1.4	0.5	0.1	
		5,610	1.068 (ATV)	3	1.1	0.3	
		5,610	3.853 (other)	10.8	3.9	1	
		Total		15.2	5.5	1.4	-12%

Note 1. ARB uses factor of 10 vehicles/day Mileage assigned 1/3 each to Motorcycles, ATV and other
2. From AP-42 factor = 0.36 for PM10
3. From AP-42 factor = 0.095 for PM2.5

APPENDIX B

APPENDIX B – BIOLOGICAL RESOURCES
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B.1 INTRODUCTION

The land use planning decisions in Chapter 2 provide direction for managing biological resources within the RMP decision area. Guidelines for managing other activities, such as oil and gas development and livestock grazing, will ensure that these activities will be consistent with the direction established for biological resources. This RMP also refers to special areas with significant biological resources as ACECs or areas of ecological importance in the ACEC or biological resources section of the RMP. Numerous standard operating procedures also ensure protection of biological resources during the implementation of other BLM programs and third-party authorizations.

This chapter contains supplemental affected environment information and the specific biological resource information that will be used in conjunction with the guidelines found in other chapters. Also included is a strategy for how public lands will be managed to contribute to the conservation of special status species in the RMP decision area in general and in the San Joaquin Valley specifically.

B.2 CONSERVATION STRATEGY

General Conservation Strategy

The scattered pattern of BLM lands in the decision area provides numerous opportunities for public lands to contribute to local and regional conservation programs. The BLM will seek out partnerships with other public and private entities to conserve and recover landscapes, natural communities, special status species, and other important biological resources. Examples of focal areas for specific special status species and their habitats are Los Osos, Hopper Mountain, Bitter Creek, South Fork of the Kern River, Table Mountain and Kennedy Table, Atwell Island, Lokern-Buena Vista Valley, Kettleman Hills, Caliente Creek, and Cyrus Canyon. Other efforts focus on natural landscapes, assemblages of species and communities, and biological resources of regional importance. Areas with these focuses are the Irish Hills, the Tulare Lake Basin, and the Salinas River. The BLM will manage public lands to contribute to the objectives of local and regional conservation plans, where external objectives are consistent with the management objectives of this plan.

A Conservation Strategy for Threatened and Endangered Species in the San Joaquin Valley

Background

Public land in the Valley Management Area constitutes a substantial amount of the remaining natural land in the southern San Joaquin Valley. These natural lands provide important habitat for several federal and state listed plant and animal species, as well as many other species that are endemic to the region.

The Endangered Species Act of 1973 mandates that federal agencies, including the BLM, carry out programs for the conservation and recovery of threatened and endangered species. BLM policy, as

stated in the BLM Manual, Section 6840, and policy statements, such as USFWS 2000, further guides how BLM lands will to meet the mandate for conservation programs through resource management.

The Endangered Species Act also directs the USFWS to develop recovery plans for threatened and endangered species. These recovery plans provide the strategy that all agencies and organizations can implement to ensure a coordinated and comprehensive approach to species conservation and recovery. In 1998 the USFWS completed the Recovery Plan for Upland Species of the San Joaquin Valley, California (USFWS 1998). This multispecies recovery plan provides a framework for recovery efforts within the San Joaquin Valley. Local governments, industry, private landowners and local offices of state and federal agencies determine how the regional framework will be implemented for their jurisdiction. Part of the concept is to develop local plans for consistent application by local, state, and federal governments within the local planning area. To assist with the local plan development, the USFWS is cooperating with local governments to develop habitat conservation plans that integrate recovery objectives with the planning activities of local, state, and federal governments.

Public land in the San Joaquin Valley plays a key role in the recovery plan and in many of these local plans. This section addresses how the BLM will integrate with these existing and emerging local plans.

San Joaquin Valley Conservation Strategy

The Recovery Plan for Upland Species of the San Joaquin Valley, California, uses an ecosystem-level strategy to address recovery and conservation of 11 listed species and 23 additional special status species. The strategy includes several elements that relate to the management of public land:

- The primary focus of recovery should be on publically owned lands;
- Conservation efforts should focus on fewer larger blocks of land rather than smaller more numerous parcels;
- Blocks of conservation lands should be connected by natural land or land with compatible uses that allow for movement between blocks;
- Emphasis should be placed on the San Joaquin kit fox as an umbrella species. Since most other species require less habitat, fulfilling the management and habitat needs of the San Joaquin kit fox will also meet the needs of many other species;
- The giant kangaroo rat and San Joaquin kangaroo rat are keystone species in their communities. Protection of these keystone species should be a high priority since they provide an important or essential function for many other listed and special status species;
- Uses and actions on public land, such as livestock grazing, oil and gas and mineral exploration and extraction, hunting, and recreation should occur so as not to degrade habitat for special status species;

- Use specialty preserves or small reserves to manage species with highly restricted geographic ranges or specialized habitat requirements or that are vulnerable to traditional land uses;
- Target existing natural lands occupied by special status species over unoccupied natural land and retired farm land for conservation;
- Coordinate carefully agricultural land retirement with endangered species recovery for species where sufficient occupied natural land does not exist, but where it is needed to increase population size or promote movement between populations,;
- Enhance landscape features that allow successful survival and movement from population centers on the valley floor to the valley perimeter for species such as the kit fox that can live in or move through the farmland matrix,; and
- Implementing the recovery plan should be complementary to existing and future habitat conservation plans.

The foundation of the regional conservation strategy is a system of reserves and connecting corridors. Through assessments of remaining natural land habitats, a reserve system concept was developed to conserve the best remaining habitats of the San Joaquin Valley natural communities (USFWS 1998). Several large keystone reserves, several small specialty reserves, and connecting corridors linking many of the reserves have been established or proposed. The large reserves are intended to maintain and conserve multiple plant and animal listed species as a natural community, while the small reserves are designed to conserve a particular species or unique natural feature. These reserves would be managed for long-term conservation of the listed plants and animals and the natural communities on which they depend, but would allow for a variety of land uses managed in a compatible manner. Both large and small reserves are necessary to conserve the valley's biological resources.

As part of the recovery plan (USFWS 1998), a generalized reserve system map has been developed that identifies the keystone reserves, small specialty reserves, and connecting corridors. The recovery plan identifies a number of reserves and connecting corridors that are targeted for protection. Several of these contain or are next to public lands within the decision area—Elk Hills and Buena Vista Valley, Western Kern county (including Lokern), Pixley NWR/Allensworth Natural Area, Kettleman Hills, Kern NWR/Semitropic Ridge Natural Area, Upper Cuyama Valley/Santa Barbara Canyon, Bittercreek NWR, Devil's Den, Lost Hills-Buena Vista Slough and Caliente Creek.

Reserves include both large multispecies reserves and small specialty reserves. These areas would be managed *primarily* for listed plants and animals. While other compatible resource uses could occur, the design of uses would maintain habitat quality and species' populations. Management of the reserves would be assured by fee acquisition, by federal, state, or local agencies, chartered conservation organizations, conservation easements, or long-term cooperative agreements with landowners. The goal is to maintain a certain percentage of the native lands as high quality habitat and to rehabilitate lands with nonnative species as they become available for purchase, easement, or agreement. A threshold for habitat disturbance from energy mineral development, roads, and facilities would be established. Reserves and connecting corridors would have different thresholds

for habitat disturbance. Compensation for new habitat disturbance within the threshold would be at a standard rate for uses that are considered permanent habitat loss and at another standard rate for temporary habitat loss. Currently, the compensation rate is 3:1 for permanent habitat loss and 1.1:1 for temporary habitat loss. In addition, the USFWS has required an additional 1:1 ratio of habitat replacement in the western Kern County kit fox core area to accelerate habitat conservation. Vernal pool habitat compensation has been set at 5:1, with a replacement element. The USFWS and Department of Fish and Game may modify compensation ratios and requirements during the life of this RMP.

Connecting corridors are composed of native and agricultural lands to be managed for maintaining interchange and gene flow between the primary reserves and for maintaining supplemental populations between reserves. Emphasis is to maintain a certain percentage of native lands as moderate- to high-quality habitat and to maintain a certain percentage of the agricultural lands in agricultural production or fallow. A certain percentage of these lands would be available for urban, industrial, or other land uses that are considered permanent habitat loss. Land use design would maintain corridor integrity as extant habitat and for movements. Permanent habitat loss from urban-industrial uses would not sever wildlife corridors. Compensation would be directed to the reserve areas. The compensation ratio is the same as for reserves. Also, limited compensation could be directed back to the corridor. Corridors would not normally involve purchase but would be secured through conservation easements and agreements. However, some parcels essential to maintain corridors or buffers may need to be purchased.

On native lands outside the reserve and corridor system, management for the retention of habitat values has not been the focus of management. Most of these lands have some habitat value, and many of these areas may be valuable sources of plant and animal populations in the short term. Most of these values will continue to exist, unless there are dramatic changes in current land uses. The Bakersfield FO's policy is to conserve lands outside the reserve and corridor system because they serve as important remnants of listed species habitat and natural communities. These lands will be managed for their long-term habitat values unless they are added to a corridor or reserve area.

Bakersfield FO Conservation Program

Within the landscape of the San Joaquin Valley regional conservation strategy , BLM lands are included in a number of reserve areas, habitat corridors, and specialty preserves. Public lands in several of these areas are proposed for designation as ACECs: Ancient Lakeshores, Compensation Lands, Kettleman Hills, Lokern-Buena Vista, and Upper Cuyama Valley. The BLM will manage its public lands in these areas for the long-term conservation of listed plants and animals and the natural communities on which they depend, while still allowing compatible land uses. Also, the BLM will retain and manage additional lands acquired for conservation, whether by appropriations, donation, exchange, transfer, or compensation, for those purposes. Lands acquired as compensation would become part of the Compensation ACEC to highlight the BLM's management priorities.

A key component of the reserve and corridor linkage strategy is to maintain suitable amounts of habitat that are largely undisturbed by development activities. Habitat disturbance thresholds are criteria for maintaining long-term suitability of reserve areas (red zones) and habitat corridors (green zones). Limiting the amount of habitat (and ground) disturbance will allow sufficient habitat to remain intact, keep ecosystem processes functioning properly and connect viable species populations across the landscape. Within the reserve areas, habitat disturbance is limited to 10% of the surface area of individual BLM parcels or 10% of adjoining BLM parcels. Parcels that adjoin only at one corner are considered separate parcels. Most remaining public lands within the Valley Management Area have been identified in the regional conservation strategy as connecting corridors. The BLM would manage public lands in these areas as links between reserve areas. In the corridor areas, habitat disturbance is limited to 25% of the surface area of individual BLM parcels or 25% of adjoining BLM parcels.

BLM lands are an essential component of the ecosystem-level recovery strategy. No net loss would occur in the amount of BLM land within the reserve or corridor system. The BLM and USFWS require an additional 1:1 replacement of habitat when ground disturbance occurs in BLM reserves or corridors beyond the permitted percentages. This replacement is in addition to any compensation that is required. Over time, the wildlife agencies and BLM may need to reconfigure the reserve and corridor design and boundaries based on changing environmental conditions. BLM may reposition public lands to meet such design changes so that no net loss of BLM lands would result in the reserves and corridors.

The BLM has been an active partner in implementing the Recovery Plan for Upland Species of the San Joaquin Valley, California. The BLM has contributed toward inventorying and monitoring, conducting research, enhancing habitat, acquiring and restoring land, and protecting habitat. The BLM, through the ESA consultation process with the USFWS, has been responsible for over fifteen hundred acres of off-site habitat compensation to be acquired and protected. In addition, the BLM is limiting habitat disturbance on public lands within reserves and corridors to the levels proposed in the Kern Valley Floor Habitat Conservation Plan.

The BLM will design projects authorized or carried out to minimize impacts on biological resources, especially special status species. The USFWS, CDF&G, species experts, and other biologists have developed cooperatively a number of survey, avoidance, mitigation, compensation, monitoring, and reporting protocols . Implementation of these protocols is required for compliance with various state and federal permits, including biological opinions. The BLM extends the requirement to minimize impacts on all portions of a project when the BLM is involved. For example, when both private and public lands are involved in a consultation, the higher BLM standard for conservation is extended to the entire project, including any private lands.

Meeting the Public Need

One goal of the BLM's conservation strategy is to dedicate or reposition public holdings to meet San Joaquin Valley conservation needs. The BLM can dedicate management of existing holdings to

promote recovery and conservation and exchange some land holdings to accommodate private development or optimize public conservation efforts. For example, within the Kern Valley Floor Habitat Conservation Plan Area, the BLM will manage all public lands within reserves and corridors as *conserved lands*, consistent with other conserved lands to promote conservation and recovery.

The BLM also intends to process applications efficiently, such as preapproved permitting with the USFWS for programmatic biological opinions and the use of local habitat conservation plans. The USFWS has completed programmatic biological opinions for oil and gas exploration, access, infrastructure construction, extraction, and abandonment in Kern and Kings counties and for geophysical surveys in Kern, Tulare, Kings, and western Fresno counties. The BLM is also working to acquire compensation lands that can be purchased by applicants of BLM- authorized projects. This practice will promote conservation of additional reserve and corridor lands and will provide applicants with an additional option for meeting their compensation requirements.

B.3 SUPPLEMENTAL INFORMATION

Vegetation

The presence of a plant community at a site is the combined function of precipitation patterns, soil characteristics, aspect, site disturbance history, and land uses. North-facing slopes have more water and support vegetation with higher water requirements, such as woodlands, while drier adjacent south-facing slopes are covered with scrub communities or grassland. Rare soils often host unique vegetation. Disturbances such as fire and invasions of non-native species from ground disturbances may work jointly to convert oak woodlands or chaparral scrub communities to grasslands dominated by non-native species (Brooks 1999). Grazing facilitates conversion of scrub communities to non-native grasslands (Sankary and Barbour 1972; Twisselmann 1956; USFWS 1998) and deterioration of oak woodlands (Dahlgren et al. 1997; Hall et al. 1992; Pavlik et al. 1991). Roads and other infrastructure often alter water flow in watersheds and change the distribution and patterns of vegetation. Climate change appears to shift precipitation patterns and temperature regimes and subsequently alter the composition and structure of plant communities. Overall, the Decision Area is expected to be hotter and drier (Christensen et al. 2007), and vegetation communities are expected to respond accordingly (Kueppers et al. 2005).

Plant Communities

Multiple vegetation alliances (Sawyer and Keeler-Wolf) occur alliance within the RMP decision area (Table 3.2.5-1, Vegetation Alliance Statistics for the Bakersfield FO RMP Decision Area). Because of their high diversity, these alliances are best grouped into more generalized vegetation communities. Overall, vegetation on public lands is forms oak woodlands, conifer woodlands, grasslands, chaparral, scrubland, or riparian communities. A number of less common specialized alliance of vegetation are associated with unusual soils, such as those derived from serpentinite, wind-deposited dune sands, with high alkali content, or underlain by impermeable clays. Besides the

four grassland alliance dominated by introduced grasses, there are three additional alliance where invasive exotic plants outcompete the native flora.

Oak Woodland

On public lands within the RMP decision area, there are 11 tree alliance that have oak as a major component. Dominant oaks in these tree alliance include, black oak (*Q. kelloggii*), blue oak (*Q. douglasii*), canyon live oak (*Q. chrysolepis*), coast live oak (*Q. agrifolia*), interior live oak (*Q. wislizeni*), , , and valley oak (*Q. lobata*). These oak woodlands generally have grass- or herb-dominated understories, sometimes have chaparral elements as associated species, and may contain other hardwoods, such as California buckeye (*Aesculus californica*) and California bay laurel (*Umbellularia californica*), or conifers, such as foothill (gray) pine (*Pinus sabiniana*). As elsewhere in California, oak regeneration appears depressed. Factors contributing to the general decline in oaks include grazing effects, competition and fires associated with introduced annual grasses, and predation by pigs and gophers (Bartolome 1987; Borchert et al. 1989; Dahlgren et al. 1997; Hall et al. 1992; Pavlik et al. 1991; Rousset and Lepart 2000). Deer have also been shown to depress the growth of small oaks (Pavlik et al.1991; Ripple and Beschta 2008). Oak vegetation is particularly well represented in the Coast and Sierra Regions, with only a small amount found in the Valley Region.

Conifer Woodland

Within the RMP decision area are 15 vegetation alliances dominated by Bishop pine (*Pinus muricata*), Coulter pine (*P. coulteri*), foothill (gray) pine, Jeffrey pine (*P. jeffreyi*), ponderosa pine (*P. ponderosa*), piñon pine (*P. edulis*), incense cedar (*Calocedrus decurrens*), Sargent cypress (*Cupressus sargentii*), California juniper (*Juniperus californica*), giant sequoia (*Sequoiadendron giganteum*), Santa Lucia fir (*Abies bracteata*), and white fir (*A. concolor*). Most of these communities are either in the Coast or Sierra Regions, but the foothill pine alliance is present in both Coast and Sierra Regions, while the California juniper alliance is present in both Valley and Sierra Regions. Understory species are similar to those in the oak woodlands. Oaks and other hardwoods may also be components. Conifer woodland habitats in the RMP decision area fall within three roughly defined groups: 1. Relatively moist sites at higher elevations in the Sierra Nevada (giant sequoia, incense cedar, and Jeffrey and ponderosa pines), 2. Relatively dry slopes in the Sierra Nevada and Coast Ranges (piñon pine (Sierra Nevada only), California juniper, and to a lesser extent, foothill and Coulter pines), and 3. Sites with specialized soils or supporting small remnant populations of previously more widespread species (Bishop pine, Santa Lucia fir, and Piute (*Cupressus arizonica* spp. *Nevadensis*) and Sargent cypress). The drier types of conifer woodland often have bare or sparsely vegetated soils between the trees. Fire, grazing, the spread of invasive non-native plants, climate change, and disease outbreaks indirectly caused by insects have altered conifer woodlands.

Riparian Woodland

Eight riparian tree alliances are present on public lands in the RMP decision area. Dominant trees are willows (*Salix* spp.), cottonwoods (*Populus* spp.), ashes (*Fraxinus* spp.) and California sycamores (*Platanus racemosa*). All alliances are associated with water-saturated soils. Although not very

prominent in coverage, they are important biologically by providing food, water, habitat, and cover for wildlife, by protecting stream banks from erosion, and by preventing sedimentation in waterways. Most riparian woodland alliances are present in all three regions. Associated species include a number of herbaceous obligate wetland species such as rushes (*Juncus* spp.), sedges (*Carex* spp.), and spikerushes (*Eleocharis* spp.). Human activities, including water diversion, pollution, and habitat destruction from grazing have significantly affected riparian areas. Invasive species, such as tamarisk (*Tamarix* spp.), have also been a problem in some areas.

Hardwood Woodland

There are only four non-oak hardwood alliances within the RMP decision area and they form only a small portion of the overall vegetation. Dominant species include California bay, California buckeye, California walnut (*Juglans californica*), and tree-sized birchleaf mountain-mahogany (*Cercocarpus montanus* var. *glaber*). All four 8ucculen are present in the Coast Region, while the mountain-mahogany and buckeye 8ucculen are also present in the Sierra Region. Understories are similar to the oak alliances.

Desert Woodland

There is only a single desert woodland alliance present on public lands in the RMP decision area, dominated by mesquite (*Prosopis* spp.) and found in small amounts in the Valley Region. The presence of mesquite in the San Joaquin Valley appears to be a recent development (approximately 120 years ago) and is probably associated with the historical passage of livestock through the valley (Holland 1987, 1988).

Chaparral

Twenty-eight shrub alliances fall under the general heading of chaparral. These alliances are dominated or co-dominated by ceanothus (*Ceanothus* spp.) (12), 8ucculent (*Arctostaphylos* spp.) (7), scrub oak (*Quercus* spp.) (4), redshank (*Adenostoma sparsifolium*) (3), chamise (*A. fasciculatum*) (6), or oceanspray (*Holodiscus discolor*) (1). The chaparral alliances tend to be dense, growing 6 to 20 feet high, and are found in areas drier than woodlands but moister than grasslands. Chaparral shrubs often possess drought-tolerant adaptations like sclerophyllous leaves, and many species, shrubs and herbs alike, are adapted to recurring fires. Fire adaptations include stump-sprouting and fire-induced seed germination. Chaparral communities usually have a herbaceous "fire-follower" flora that appears after fires and diminishes or disappears altogether as the shrub component regenerates. Chaparral vegetation is diverse and well developed in the Coast and Sierra Regions. A few alliances are present within the western Valley Region. Loss of habitat due to development, changing fire regimes due to human activities, invasion by introduced annual grasses, and grazing have altered many chaparral communities.

Coastal Scrub

Smaller drought-deciduous shrubs, such as sage (*Salvia* spp.), California buckwheat (*Eriogonum fasciculatum*), California sagebrush (*Artemisia californica*), coyote bush (*Baccharis pilularis*), and California

brittlebush (*Encelia californica*) dominate the seven shrub alliances in the Coast Region . Bare ground is common around many shrubs due to from germination-inhibiting chemicals produced in the leaves (allelopathy). A robust flora of herbaceous understory species occurs in many coastal scrub communities where gaps in shrub cover occur. Many species also have fire adaptations, such as stump-sprouting. Much coastal scrub habitat in California has been lost due to development and grazing. Invasive annual grasses and shorter fire return intervals are also a concern because they convert coastal scrub communities to grasslands dominated by introduced species.

Alkali Scrub

Six alliances of alkali scrub vegetation are present, all within the Valley Region. Soils with a high alkali or salt content host alkali scrub and , shrubs in the goosefoot family (Chenopodiaceae) predominate, primarily saltbush (*Atriplex* spp.) but also greasewood (*Sarcobatus vermiculatus*) and iodine bush (*Allenrolfea occidentalis*). The level of salt in the soil affects the vegetation community; higher salinity tends to favor iodine bush over saltbush. The extent of these communities in the San Joaquin Valley has greatly diminished due to the conversion of large amounts of alkali scrub to agriculture and oil fielddevelopment. Fire, overgrazing, and vehicle trespass have also been responsible for habitat loss. Most of these communities are rare and provide important habitat for sensitive animal species in the San Joaquin Valley. Public land plays an important role in conserving these rare habitats.

Riparian Shrub

Four alliance of riparian shrub vegetation are present, dominated by willow species, arrowweed (*Pluchea sericea*), mulefat (*Baccharis salicifolia*), or buttonwillow (*Cephalanthus occidentalis*). These riparian shrub communities are within all the regions, except for the arrowweed alliance, which is only in the Coast Region. All riparian shrub communities are characterized by saturated soils and have willow as a major component. Changes and threats to this type of vegetation are similar to those of the woodland riparian alliance.

Weed-Dominated Shrub

Two alliances are dominated by non-native shrubs (broom [*Cytisus* spp., *Genista* spp.] and tamarisk (*Tamarix* spp.). Tamarisk is a concern only in the Valley Region. Broom is a concern in the Sierra Region, although it is also a problem within the Coast Region but is not present on public lands.

Miscellaneous Shrub

The remaining eight shrub alliances on public lands within the RMP decision area do not readily fall into one convenient grouping. The rubber rabbitbrush (*Ericameria nauseosa*) and scalebroom (broomsage) (*Lepidospartum squamatum*) alliance are found in disturbed habitats, such as washes and roadsides and are often early successional communities. Others are dominated by distinctive elements (blue elderberry [*Sambucus mexicana*]), are desert-type alliance (Joshua trees [*Yucca brevifolia*], big sagebrush [*Artemisia tridentata*], black bush [*Coleogyne ramosissima*], and bladderpod-California ephedra-narrowleaf goldenbush), are found in coastal dunes (dune-lupine-goldenbush alliance), or

just do not easily fit into other categories. Weeds are an issue in some areas. Fire has been an ongoing concern with Joshua trees and black bush communities because their regeneration is limited following recent fires. Grazing is a problem in some areas and has resulted in the loss of shrubs and the conversion of shrub communities to nonnative-dominated grassland.

Grassland

Thirteen grassland alliances are present on public lands in the RMP decision area. Seven are characterized by the dominance of one or more native bunchgrass, two by the dominance of native rhizomatous grass, and the remaining four by the dominance of introduced grasses. Grasses also provide the understory for many tree alliances and occur as patches within many shrub communities. Grasslands are well represented in all three regions and occupy major parts of the landscape. Drier sites tend to support annual grasses, usually introduced, while more mesic sites support native perennial grasses. Grazing has been a major force in the alteration of native perennial grasslands, the spread of weedy species, and the maintenance of introduced annual grassland communities. Fire and grazing have been explored as tools to manage California grasslands, with varying levels of success.

Riparian Herb

Ten herb-dominated riparian alliances are present on public lands within the RMP decision area, and most occur in all three regions. Habitats for these alliances range from areas of saturated soils to running or standing water and include seeps, streams, rivers, and ponds. Wetland species, such as sedge, spikerush, bulrush (*Scirpus* spp.), and cattail (*Typhus* spp.), are common dominants. Two riparian alliance associated with ponds are dominated by small floating ferns (*Azolla* spp.) or duckweeds (*Lemna* spp.). Changes and threats to the herb-dominated riparian communities are similar to those of the woodland riparian alliance.

Miscellaneous Herb

Three additional herbaceous alliances are present on public lands within the RMP decision area. Two occur on coastal sands; one is dominated by native sand verbena (*Abronia* spp.) and beach bursage (*Ambrosia chamissonis*), the other by introduced iceplant (*Carpobrotus* spp.), which has replaced the former community in many areas along the coast. The final herb alliance, dominated by perennial pickleweed (*Salicornia virginica*), occurs in alkali areas within the Valley Region and has similar habitat characteristics and species composition as the alkali shrub communities.

Special Status and Sensitive Plant Species

The RMP decision area provides habitat for many rare plants (Table B-4). These special status species include federally listed species and candidates for listing, state listed species, and BLM sensitive species (which corresponds to list 1B species in the California Native Plant Society's Inventory of Rare and Endangered Vascular Plants of California [2009b]). Sixty-five BLM special status species are found within the RMP decision area; and another 32 species are suspected to occur. Information is scant on the distributions, habitat requirements, pollinators, and general biology of the rare plants within the RMP decision area boundaries. At present, most of the RMP

decision area has not been adequately surveyed for rare plants, so the presence or absence of a particular plant is often an educated guess.

There are 41 federally listed plant species reported as being within the RMP Planning Area boundary (CNPS 2009b; Table B-1, Federally Listed Plants on Public Lands in the RMP Planning Area), including ten known to occur on public lands in the RMP decision area, nine suspected to occur, thirteen with the potential to occur, and ten that are unlikely to occur. One delisted plant also occurs on BLM lands. There are an additional two species that have been reported within the RMP Planning Area (CNPS 2009b; Consortium of California Herbaria 2009), but these records are incorrect. Of the listed species within the Bakersfield FO planning area boundary, critical habitat has been established for twenty (USFWS 2009a) and recovery plans have been published for twenty-seven (USFWS 2009b).

Table B-1
Federally Listed Plants on Public Lands within the RMP Planning Area

Scientific Name **(Common Name)**	**Federal/State Status**	**Likelihood of Occurrence**
Arctostaphylos morroensis (Morro 11ucculent)	T/--	C
Arenaria paludicola (marsh sandwort)	E/E	P
Astragalus brauntonii (Braunton's milk-vetch)	E/--	U
A. pycnostachyus **var.** ***Lanosissimus*** (Ventura marsh milk-vetch)	E/E	U
Calyptridium pulchellum (Mariposa pussypaws)	T/--	S
Castilleja campestris **var.** ***11ucculent*** (succulent owl's-clover)	T/E	C
Caulanthus californicus (California jewelflower)	E/E	C
Chamaesyce hooveri (Hoover's spurge)	T/--	P
Chlorogalum purpureum **var.** ***purpureum*** (purple amole)	T/--	S
C. p. **var.** ***reductum*** (Camatta Canyon amole)	T/--	P
Chorizanthe pungens **var.** ***pungens*** (Monterey spineflower)	T/--	P
Cirsium fontinale **var.** ***obispoense*** (Chorro Creek bog thistle; San Luis Obispo fountain thistle)	E/E	C
C. loncholepis (La Graciosa thistle)	E/T	S
Clarkia speciosa **ssp.** ***Immaculata*** (Pismo clarkia)	E/R	P
C. springvillensis (Springville clarkia)	T/E	C

Table B-1
Federally Listed Plants on Public Lands within the RMP Planning Area

Scientific Name (Common Name)	Federal/State Status	Likelihood of Occurrence
Cordylanthus maritimus **ssp.** ***Maritimus*** (salt marsh bird's-beak)	E/E	P
Deinandra increscens **ssp.** ***Villosa*** (Gaviota tarplant)	E/E	S
Dudleya cymosa **ssp.** ***Agourensis*** (Santa Monica Mountains dudleya, Agoura Hills dudleya)	T/--	U
D. c. **ssp.** ***Marcescens*** (marcescent dudleya)	T/R	U
D. parva (Conejo dudleya)	T/--	U
D. 12uccul (Verity's dudleya)	T/--	U
Eremalche parryi **ssp.** ***Kernensis*** (Kern mallow)	E/--	C
Eriastrum hooveri (Hoover's woolystar)	DL/--	C
Eriodictyon altissimum (Indian Knob mountainbalm)	E/E	C
E. capitatum (Lompoc yerba santa)	E/R	S
Eriogonum kennedyi **var.** ***austromontanum*** (southern mountain buckwheat)	T/--	P
Lasthenia conjugens (Contra Costa goldfields)	E/--	U
Layia carnosa (beach layia)	E/E	P
Lupinus nipomensis (Nipomo mesa lupine)	E/E	U
Monolopia congdonii (San Joaquin woollythreads)	E/--	C
Nasturtium gambelii (Gambel's water cress)	E/E	P
Navarretia fossalis (Moran's navarretia)	T/--	P
Opuntia basilaris **var.** ***treleasei*** (Bakersfield cactus)	E/E	P
Orcuttia inaequalis (San Joaquin Valley Orcutt grass)	T/E	C
O. pilosa (hairy Orcutt grass)	E/E	P
Pentachaeta lyonii (Lyon's pentachaeta)	E/E	U
Pseudobahia bahiifolia (Hartweg's golden sunburst)	E/E	S

Table B-1
Federally Listed Plants on Public Lands within the RMP Planning Area

Scientific Name **(Common Name)**	**Federal/State Status**	**Likelihood of Occurrence**
P. peirsonii (Tulare pseudobahia)	T/E	S
Sidalcea hickmanii **ssp. *Parishii*** (Parish's checkerbloom)	C/R	S
S. keckii (Keck's checkerbloom)	E/--	S
Suaeda californica (California seablite)	E/--	U
Tuctoria greenei (Greene's tuctoria)	E/R	P

Source: CNPS 2009b

Status:
E = endangered
T = threatened
C = candidate
R = rare
DL = delisted
-- = no status

Likelihood of occurrence
C = confirmed
P = potential
S = suspected
U = unlikely

The Bakersfield FO has lands that are within three designated critical habitats (six designated critical habitats when mineral estate is included) (Table B-2, Critical Habitat on Public Lands within the RMP Decision Area). The three species with surface critical habitat are vernal pool species. For the remaining 14 species, either the BLM has no lands within the designated critical habitat (six species) or the critical habitat is not within the RMP planning area boundaries.

Table B-2
Critical Habitat on Public Lands within the RMP Planning Area

Species (*Scientific Name*)	**Fresno County**	**Tulare County**	**San Luis Obispo County**
Succulent owl's-clover *(Castilleja campestris* var. *13ucculent)*	S,ME		
Hoover's spurge *(Chamaesyce hooveri)*		ME	
Camatta Canyon amole *(Chlorogalum purpureum* var. *reductum)*			ME*
San Joaquin Valley Orcutt grass *(Orcuttia inaequalis)*	S, ME	ME	
Hairy Orcutt grass *(O. pilosa)*	S, ME	ME	
Keck's checkerbloom *(Sidalcea keckii)*	ME		

S = BLM surface ownership, ME = Mineral Estate only
*Includes ¼ of critical habitat. There are also two BLM surface parcels nearby: one at less than a tenth of a mile and one less than a mile away.

Several Habitat Conservation Plans (HCPs) are being prepared to address the conservation and recovery needs of listed species in the San Joaquin Valley (plants and animals). The Bakersfield Metro HCP was recently completed and addresses the concerns for Bakersfield cactus (*Opuntia basilaris* var. *treleasei*) in a portion of its range. However, the conservation of significant populations outside the metro area has not as yet been addressed. The Kern County and Pleasant Valley HCPs are in progress.

Areas important for the long-term protection, enhancement, and recovery of the federally listed plants are Lokern Road (Kern County) for Kern mallow; Wheeler Ridge (Kern County) for Bakersfield cactus; Carrizo Plain (San Luis Obispo County) and Cuyama Valley (San Luis Obispo and Santa Barbara Counties) for San Joaquin woolly-threads and California jewelflower; and Kettleman Hills (Kings County) for San Joaquin woolly-threads.

B.4 LISTED SPECIES ACCOUNTS

The following short accounts cover the one delisted and 41 listed plants that are found within the RMP Planning Area (Table B-1, Federally Listed Plants on Public Lands in the RMP Planning Area). Ten of the listed species are considered unlikely to occur within the RMP decision area, but they may be possible on small surface or mineral estate or on lands acquired in the future. These ten species are included to provide a complete record of the listed plants within the RMP Planning Area and to prepare for future discoveries on BLM lands. There are an additional two species that have been reported within the RMP Planning Area, but these records are incorrect. The Kern County citation of *Atriplex coronata* var. *notatior* (San Jacinto Valley crownscale) (Consortium of California Herbaria 2009) is based on a misidentified specimen (Wilkins 2009). The San Luis Obispo County citation of *Brodiaea filifolia* (thread-leaved brodiaea) (CNPS 2009b) is not verified by any specimen in California Natural Diversity Database, nor in the Consortium of California Herbaria (2009). As such, neither species is described below.

Arctostaphylos morroensis (Morro manzanita)
Federal threatened, no state status

Morro manzanita is an evergreen shrub found in maritime chaparral at an elevation of 15 to 670 feet. The species is found in San Luis Obispo County, in the Irish Hills and Los Osos Valley within five miles of Morro Bay, with a total occupied habitat estimated to cover less than 350 acres. A small population occurs on public land in the Los Osos parcel. Morro manzanita is threatened by urbanization, the alteration of fire regimes (Odion and Tyler 2002), and habitat encroachment by the nonnative purple veldtgrass (*Ehrharta calycina*).

Arenaria paludicola (marsh sandwort)
Federal endangered, state endangered

Marsh sandwort is a perennial stoloniferous herb found in marshes, swamps, and sandy openings at an elevation of 10 to 560 feet. The species has been previously collected in Los Angeles, San

Bernardino, Santa Cruz, and San Francisco Counties. Extant populations are restricted to Mendocino County at Inglenook Fen and San Luis Obispo County, near Arroyo Grande south to Oso Flaco Lake and Guadalupe Dunes. The species is not currently known to occur on public lands but has a slight potential to occur on the Point Sal parcel. Marsh sandwort is threatened by development, erosion, and nonnative plants.

Astragalus brauntonii (Braunton's milk-vetch)
Federal endangered, no state status

Braunton's milk-vetch is a perennial herb found in chaparral, coastal scrub, and valley and foothill grassland, in recent burns or disturbed areas, usually sandstone with carbonate layers at an elevation of 0 to 2,100 feet. The species is known from the Transverse and Peninsular Ranges of Ventura, Los Angeles, Orange, and Riverside Counties. Within the RMP planning area, it is known from the Medea Creek area near Thousand Oaks, Ventura County. It is unlikely to occur within the RMP decision area but may be possible on small surface or mineral estate. Braunton's milk-vetch is threatened by development, vegetation, and fuel management activities and alteration of local fire regimes (CNPS 2009b).

A. pycnostachyus* var. *lanosissimus (Ventura marsh milk-vetch)
Federal endangered, state endangered

Ventura marsh milk-vetch is a perennial herb found in coastal dunes and coastal scrub and on the edges of coastal marshes and swamps at an elevation of 4 to 120 feet. The species was rediscovered near Oxnard in 1997; it is now known from only one natural occurrence of 30 to 50 reproductive plants. It is unlikely to occur within the RMP decision area but may be possible on small surface or mineral estate in the Ventura County coastal strand. Ventura marsh milk-vetch is threatened by development, herbivory, cucumber mosaic virus, and nonnative plants (CNPS 2009b).

Calyptridium pulchellum (Mariposa pussypaws)
Federal threatened, no state status

Mariposa pussypaws is an annual herb found in sandy or gravely areas within chaparral or cismontane woodland, at an elevation of 1,300 to 4,000 feet. The species is known from fewer than ten occurrences in Fresno, Madera, and Mariposa Counties. It is not currently known to occur on public land but is suspected to occur within the San Joaquin River Gorge and potentially other public lands within Fresno and Madera Counties. Mariposa pussypaws is threatened by development, grazing, and vehicles.

Castilleja campestris* var. *succulenta (succulent owl's-clover)
Federal threatened, state endangered

Succulent owl's-clover is an annual hemiparisitic herb found in vernal pools at an elevation of 165 to 2,500 feet. The species is found in Fresno, Madera, Merced, Mariposa, San Joaquin, and Stanislaus

Counties and has been documented on the BLM Big Table Mountain parcel. Succulent owl's-clover is threatened by urbanization, agriculture, flood control, grazing, and trampling.

Caulanthus californicus (California jewelflower)
Federal endangered, state endangered

California jewelflower is an annual herb found in grassland, chenopod scrub, and piñon-juniper woodland habitats at an elevation of 200 to 3,300 feet. The species is often associated with the burrow systems of giant kangaroo rats (*Dipodomys ingens*) (Mazer and Hendrickson 1993; Cypher 1994; USFWS 1998). The species was previously widespread but now is restricted to three areas: Santa Barbara Canyon near Cuyama Valley (Santa Barbara County), the Carrizo Plain (San Luis Obispo County), and the Kreyenhagen Hills (Fresno County). Occurrences on public lands include lands in the Cuyama Valley and Carrizo National Monument. The population in the Kreyenhagen Hills is managed by the Hollister BLM Field Office. Previously documented populations in the San Joaquin Valley (Kings, Kern, and Tulare County) were lost due to overgrazing or conversion of habitat to agricultural use (USFWS 1998). California jewelflower is threatened by development, agriculture, and grazing.

Chamaesyce hooveri (Hoover's spurge)
Federal threatened, no state status

Hoover's spurge is an annual herb found in vernal pools at an elevation of 80 to 800 feet. The species is known from Butte, Colusa, Glenn, Merced, Stanislaus, Tehama, and Tulare Counties. It has the potential to be found on public lands in Tulare County. Hoover's spurge is threatened by grazing, agriculture, and nonnative plants (CNPS 2009b).

Chlorogalum purpureum* var. *purpureum (purple amole)
Federal threatened, no state status

Purple amole is a perennial herb found in gravelly or clay soils in chaparral, cismontane woodland, and valley and foothill grassland at an elevation of 650 to 1,150 feet. The species is known from Monterey and San Luis Obispo Counties and is suspected to be on public lands in the Santa Lucia Mountains (San Luis Obispo County). Purple amole is threatened by habitat fragmentation, habitat conversion, nonnative plants, foot traffic, vehicles, and military activities. It is potentially threatened by grazing (CNPS 2009b).

C. p.* var. *reductum (Camatta Canyon amole)
Federal threatened, no state status

Camatta Canyon amole is a perennial herb found in cismontane woodland and valley and foothill grassland at an elevation of 1,000 to 2,000 feet. The species is known from only two occurrences in the La Panza Range (San Luis Obispo County) and has the potential to be on public lands in the La Panza Range. Camatta Canyon amole is threatened by grazing, habitat fragmentation, habitat conversion, nonnative plants, road maintenance, and vehicles (CNPS 2009b).

Chorizanthe pungens* var. *pungens (Monterey spineflower)
Federal threatened, no state status

Monterey spineflower is an annual herb found in sandy soils in maritime chaparral, cismontane woodland, coastal dunes and scrub, and valley and foothill grassland at an elevation of 10 to 1,500 feet. Monterey spineflower is currently known from Monterey and Santa Cruz Counties, although there was one collection in 1842 from San Luis Obispo County (Consortium of California Herbaria 2009). There is a low probability that the species could be found on public lands in San Luis Obispo County near the border with Monterey County. Monterey spineflower is threatened by urbanization, recreational development and activities, agriculture, military activities, and nonnative plants (CNPS 2009b).

Cirsium fontinale* var. *obispoense (Chorro Creek bog thistle; San Luis Obispo fountain thistle)
Federal endangered, state endangered

Chorro Creek bog thistle is a perennial herb found in serpentinite seeps and drainages within chaparral, cismontane woodland, coastal scrub, and valley and foothill grassland at an elevation of 100 to 1,250 feet. Chorro Creek bog thistle is known from fewer than 20 occurrences in San Luis Obispo County and is known to occur on public lands there. The species is threatened by grazing, development, and proposed water diversions (CNPS 2009b).

C. loncholepis (La Graciosa thistle)
Federal endangered, state threatened

La Graciosa thistle is a perennial herb found in mesic sandy sites in cismontane woodland, coastal dunes, and scrub, marshes and swamps, and valley and foothill grassland habitats at an elevation of15 to 700 feet. La Graciosa thistle is known from fewer than twenty occurrences in the area between Arroyo Grande and Lompoc (San Luis Obispo and Santa Barbara Counties). The species is reported by CNPS (2009) to also be in Monterey and Ventura Counties, but no specimens are on record (Consortium of California Herbaria 2009). La Graciosa thistle is suspected to be present on public lands in San Luis Obispo County. It is threatened by development, vehicles, groundwater pumping, and nonnative plants and is possibly threatened by grazing (CNPS 2009b).

Clarkia speciosa* ssp. *immaculata (Pismo clarkia)
Federal endangered, state rare

Pismo clarkia is an annual herb found in sandy openings in chaparral cismontane woodland and valley and foothill grassland, at an elevation of 80 to 600 feet. The species is known from less than 20 occurrences between Morro Bay and Arroyo Grande in San Luis Obispo County, and it has the potential to be found on public lands. Pismo clarkia is threatened by development, road maintenance, and grazing (CNPS 2009b).

C. springvillensis (Springville clarkia)
Federal threatened, state endangered

Springville clarkia is an annual herb found in granitic soils in chaparral, cismontane woodland, and valley and foothill grassland, at an elevation of 800 to 4,000 feet. The species is known from fewer than twenty occurrences in the Tule and Kaweah River drainages in Tulare County and is found on public lands. Springville clarkia is threatened by nonnative plants, overgrazing, vehicles, road maintenance, logging, and residential development (CNPS 2009b).

Cordylanthus maritimus* ssp. *maritimus (salt marsh bird's-beak)
Federal endangered, state endangered

Salt marsh bird's-beak is an annual hemiparasitic herb found in coastal dunes, marshes and swamps at an elevation of 0 to 100 feet. The species is known from coastal California, from San Luis Obispo to San Diego County. It is also reported from San Bernardino and Santa Clara County (Consortium of California Herbaria 2009), but these last are based on specimens collected over 100 years ago, and their correct identification is questionable. Salt marsh bird's-beak has a low potential to occur on public lands in San Luis Obispo County. It is threatened by vehicles, road construction, foot traffic, nonnative plants, and loss of salt marsh habitat (CNPS 2009b).

Deinandra increscens* ssp. *villosa (Gaviota tarplant)
Federal endangered, state endangered

Gaviota tarplant is an annual herb found in coastal scrub, coastal bluff scrub, and valley and foothill grassland habitats at an elevation of 100 to 1,400 feet. The species is known from western coastal Santa Barbara County and is suspected to be present on the BLM Point Sal parcel. Gaviota tarplant is seriously threatened by energy development and nonnative plants (CNPS 2009b).

Dudleya cymosa* ssp. *agourensis (Santa Monica Mountains dudleya, Agoura Hills dudleya)
Federal threatened, no state listing

Santa Monica Mountains dudleya is a perennial succulent found in rocky volcanic areas within chaparral and cismontane woodland at an elevation of 650 to 1,600 feet. The species is known from the western Santa Monica Mountains in Ventura and Los Angeles Counties. It is unlikely to occur within the RMP decision area but may be possible on small surface or mineral estate in Ventura County. There are no listed threats for this species, but development is probably an issue (CNPS 2009b). The species is considered to be a synonym of *Dudleya cymosa* ssp. *ovatifolia* in *The Jepson Manual* (Hickman 1993).

D. c.* ssp. *marcescens (marcescent dudleya)
Federal threatened, state rare

Marcescent dudleya is a perennial succulent found in rocky volcanic areas within chaparral at an elevation of 500 to 1,700 feet. The species is known from fewer than ten occurrences in the Santa Monica Mountains of Ventura and Los Angeles Counties. It is unlikely to occur within the RMP

decision area but may be possible on small surface or mineral estate in Ventura County. Marcescent dudleya is threatened by development and foot traffic (CNPS 2009b).

D. parva (Conejo dudleya)
Federal threatened, no state listing

Conejo dudleya is a perennial succulent found in rocky or gravely clay or volcanic sites within coastal scrub and valley and foothill grassland at an elevation of 200 to 1,450 feet. The species is known from about ten occurrences from the western end of Simi Hills to Conejo Grade in Ventura County. It is unlikely to occur within the RMP decision area but may be possible on small surface or mineral estate. Conejo dudleya is threatened by horticultural collecting, recreation, vehicles, and urbanization. The species is federally listed as *Dudleya abramsii* ssp. *parva* (CNPS 2009b).

D. verityi (Verity's dudleya)
Federal threatened, no state listing

Verity's dudleya is a perennial succulent found in volcanic rocky sites within chaparral, cismontane woodland, and coastal scrub at an elevation of 200 to 400 feet. The species is known from only three occurrences near Conejo Mountain in Ventura County. It is unlikely to occur within the RMP decision area but may be possible on small surface or mineral estate. Verity's dudleya is threatened by mining, flood control activities, and development (CNPS 2009b).

Eremalche parryi* ssp. *kernensis (Kern mallow)
Federal endangered, no state status

Kern mallow is a small annual herb found in chenopod scrub and valley and foothill grassland habitat at an elevation of 230 to 3,300 feet. The exact definition of the species has been a matter of some disagreement. Reports, papers, and taxonomic treatments have varied in the exact description of the species, which populations should be included, and what the actual distribution is. The upcoming treatment for the Jepson Manual (Andreasen, in press), based on morphological and genetic analyses, indicates that Kern mallow occurs in both Kern and San Luis Obispo Counties (Andreasen 2005). There are a number of specimens from the Carrizo Plain that fall within this circumscription of the species. An earlier evaluation concluded that the Carrizo Plain population should warrant recognition as a separate rare subspecies, worthy of protection (Leonelli 1986). One specimen collected on the Elkhorn Plain is identified as Kern mallow (Consortium of California Herbaria 2009). Other specimens from the Carrizo Plain do not indicate subspecies and may or may not be Kern mallow. The species is considered to be seriously threatened by agriculture, grazing, and oil development (CNPS 2009b).

Eriastrum hooveri (Hoover's woolystar)
Federal delisted, no state status

Hoover's woolystar is an annual herb found in chenopod scrub, piñon and juniper woodland, and valley and foothill grassland at an elevation of 160 to 2,300 feet. The species is known in the San

Joaquin Valley from Merced south (Fresno, Kings, Kern, and San Benito Counties), the Carrizo Plain and Cuyama Valley (San Luis Obispo and Santa Barbara County), and an area north of Lancaster (Los Angeles County). Hoover's woolystar is found on public lands in the Valley Region and is threatened by agriculture, urbanization, energy development, and vehicles (CNPS 2009b). Following the delisting of Hoover's woolystar (USFWS 2003), and in accordance with recovery plan objectives (USFWS 1998), the BLM designated the species as sensitive, and, as such, it continues to be protected. Projects in *Eriastrum hooveri* habitat must comply with specific mitigation measures designed to protect the species.

Eriodictyon altissimum (Indian Knob mountainbalm)
Federal endangered, state endangered

Indian Knob mountainbalm is an evergreen shrub found in sandstone in chaparral cismontane woodland and coastal scrub habitats at an elevation of 260 to 900 feet. The species is known from six occurrences in the Irish Hills and Indian Knob, San Luis Obispo County, and is known on the BLM Irish Hills parcel. Indian Knob mountainbalm is threatened by urbanization, energy development, and vehicles, and possibly by alteration of fire regimes and nonnative plants (CNPS 2009b).

E. capitatum (Lompoc yerba santa)
Federal endangered, state rare

Lompoc yerba santa is an evergreen shrub found in maritime chaparral and closed-cone coniferous forest at an elevation of 130 to 3,000 feet. The species is known from western Santa Barbara County and is suspected to be on some public lands in the area. No threats to the species have been identified by CNPS (2009b), but development is a likely issue.

Eriogonum kennedyi* var. *austromontanum (southern mountain buckwheat)
Federal threatened, no state status

Southern mountain buckwheat is a perennial herb found in gravelly areas in lower montane coniferous forest, at an elevation of 6,000 to 9,500 feet. The species is known from Ventura and San Bernardino Counties and has the potential to be on public lands or BLM mineral estate in the Transverse Range. Southern mountain buckwheat is threatened by vehicles, development, grazing, nonnative plants, recreational activities, and road maintenance (CNPS 2009b).

Lasthenia conjugens (Contra Costa goldfields)
Federal endangered, no state listing

Contra Costa goldfields is an annual herb found in playas and vernal pools within cismontane woodland and foothill and valley grassland at an elevation of 0 to 1,500 feet. The species is known primarily from the counties surrounding San Francisco and in the vicinity of Monterey, but extirpated populations are also known from Mendocino County and near Goleta and Carpinteria in Santa Barbara County. It is unlikely to occur within the RMP decision area but may be possible on

small surface or mineral estate in the Coastal Region. Contra Costa goldfields is currently threatened by development, habitat alteration, hydrological alterations, overgrazing, and nonnative plants. Many historical occurrences were extirpated by development and agriculture (CNPS 2009b).

Layia carnosa (beach layia)
Federal endangered, state endangered

Beach layia is an annual herb found in coastal dunes and scrub at an elevation of 0 to 200 feet. The species is known from scattered locations along the coast of Humboldt, Marin, San Francisco, Monterey, and Santa Barbara Counties. It has the potential to be found on the BLM Point Sal parcel and is threatened by coastal development, foot traffic, vehicles, and nonnative plants (CNPS 2009b).

Lupinus nipomensis (Nipomo mesa lupine)
Federal endangered, state endangered

Nipomo mesa lupine is an annual herb found in coastal dunes at an elevation of 30 to 160 feet. The species is known from less than ten occurrences from the Guadalupe Dunes/Nipomo Mesa area in San Luis Obispo County. It is unlikely to occur within the RMP decision area but may be possible on small surface or mineral estate in the coastal plain of San Luis Obispo County. Nipomo mesa lupine is threatened by development, vehicles, and nonnative plants (CNPS 2009b).

Monolopia congdonii (San Joaquin woollythreads)
Federal endangered, no state status

San Joaquin woollythreads is an annual herb found in chenopod scrub and valley and foothill grassland at an elevation of 200 to 2,600 feet. The species is previously known from Fresno, Kings, Kern, Santa Barbara, San Benito, San Luis Obispo, and Tulare Counties. Its historic range was throughout the southern San Joaquin Valley, the Carrizo Plain, and the upper Cuyama Valley (Taylor 1989). The current distribution of San Joaquin woollythreads is four metapopulations and several small isolated populations, the largest being in the Carrizo Plain (USFWS 1998). The species is present on public lands in the Valley Region and is threatened by agricultural conversion, energy development, urbanization, grazing, trampling, and vehicles (CNPS 2009b).

Nasturtium gambelii (Gambel's water cress)
Federal endangered, state endangered

Gambel's water cress is a rhizomatous herb found in marshes and swamps at an elevation of 15 to 1,100 feet. The species is nearly extinct in the US; it is known in California from only four occurrences. The Black Lake Canyon and Little Oso Flaco Lake (San Luis Obispo County) populations were not seen in 1998 and are possibly extirpated. There is the very slight potential for this species to occur in seeps within the BLM Point Sal parcel. Gambel's water cress is seriously threatened by habitat loss, erosion, and eucalyptus that may be altering hydrology at Black Lake Canyon (CNPS 2009b).

Navarretia fossalis (Moran's navarretia)
Federal threatened, no state status

Moran's navarretia is an annual herb found in shallow playas and vernal pools within chenopod scrub at an elevation of 100 to 4,300 feet. The species is known from San Luis Obispo to Baja California, and has the potential to be found on public lands or BLM mineral estate in San Luis Obispo County. Moran's navarretia is threatened by urbanization, agriculture, road construction, grazing, flood control, nonnative plants, illegal dumping, foot traffic, and vehicles. The species is potentially threatened by hydrological alterations (CNPS 2009b).

Opuntia basilaris **var. *treleasei*** (Bakersfield cactus)
Federal endangered, state endangered

Bakersfield cactus is a perennial succulent found in sandy or gravelly soils in chenopod scrub, cismontane woodland, and valley and foothill grassland at an elevation of 400 to 1,800 feet. The species is known from Kern County and is potentially present on public lands in Kern County. Bakersfield cactus is threatened by energy development, agricultural conversion, grazing, vehicles, and especially urbanization in the Bakersfield area (CNPS 2009b).

Orcuttia inaequalis (San Joaquin Valley Orcutt grass)
Federal threatened, state endangered

San Joaquin Valley Orcutt grass is an annual grass found in vernal pools at an elevation of 30 to 2,500 feet. The species is known from Fresno, Madera, Merced, Solano, Stanislaus, and Tulare Counties (CNPS 2009b). San Joaquin Orcutt grass has been documented from the BLM Table Mountain parcel in Madera County and is seriously threatened by agriculture, development, overgrazing, channelization, and nonnative plants (CNPS 2009b).

O. pilosa (hairy Orcutt grass)
Federal endangered, state endangered

Hairy Orcutt grass is an annual herb found in vernal pools at an elevation of 160 to 660 feet. The species is known from Tehama to Fresno Counties and has the potential to be found on public lands or BLM mineral estate in Madera and Fresno Counties. Hairy Orcutt grass is seriously threatened by agriculture, urbanization, overgrazing, nonnative plants, and trampling (CNPS 2009b).

Pentachaeta lyonii (Lyon's pentachaeta)
Federal endangered, state endangered

Lyon's pentachaeta is an annual herb found in rocky or clay openings in chaparral, coastal scrub, and valley and foothill grassland at an elevation of 100 to 2,000 feet. The species is known from the Santa Monica and Santa Susana Mountains in Los Angeles and Ventura Counties. It is unlikely to occur within the RMP decision area but may be possible on small surface or mineral estate in Ventura County. Lyon's pentachaeta is threatened by development, alteration of fire regimes, trampling, vehicles, nonnative plants, and recreational activities (CNPS 2009b).

Pseudobahia bahiifolia (Hartweg's golden sunburst)
Federal endangered, state endangered

Hartweg's golden sunburst is an annual herb found in clay soils that are often acidic, in cismontane woodland and valley and foothill grassland at an elevation of 50 to 500 feet. Hartweg's golden sunburst is known from the foothills of the Sierra Nevada from Yuba to Kern Counties. It is suspected to be present on some public lands and is seriously threatened by development, agriculture, overgrazing, and trampling (CNPS 2009b).

P. peirsonii (Tulare pseudobahia)
Federal threatened, state endangered

Tulare pseudobahia is an annual herb found in adobe clay in cismontane woodland and valley and foothill grassland at an elevation of 300 to 2,600 feet. The species is known from the foothills of the Sierra Nevada in Fresno, Kern, and Tulare Counties. It is suspected to be present on some public lands and is seriously threatened by agriculture, grazing, development, nonnative plants, road construction and maintenance, and flood control activities (CNPS 2009b).

Sidalcea hickmanii **ssp.** ***parishii*** (Parish's checkerbloom)
Federal candidate, state rare

Parish's checkerbloom is a perennial herb found in chaparral, cismontane woodland, and lower montane coniferous forest at an elevation of 3,300 to 8,200 feet. The species is known from Santa Barbara, San Bernardino, and San Luis Obispo Counties. It is suspected to be present on some public lands in the Coast Range in Santa Barbara and San Luis Obispo Counties. Parish's checkerbloom is threatened by urbanization, recreational activities, vegetation/fuels management, alteration of fire regimes, grazing, trampling, and road maintenance (CNPS 2009b).

S. keckii (Keck's checkerbloom)
Federal endangered, no state status

Keck's checkerbloom is an annual herb found in clay and serpentinite soils in cismontane woodland and valley and foothill grassland at an elevation of 400 to 1,400 feet. Although the CNPS (2009b) indicates that the species is known only from three occurrences in Fresno, Tulare, and Merced Counties, specimens identified as *Sidalcea keckii* from Solano, El Dorado, and Napa Counties are in California herbaria (Consortium of California Herbaria 2009). Keck's checkerbloom is suspected to be present on some public lands in the Sierra Region. No information is available on potential threats to the species (CNPS 2009b).

Suaeda californica (California seablite)
Federal endangered, no state listing

California seablite is a small evergreen shrub found in coastal marshes and swamps at an elevation of 0 to 50 feet. The species was formerly known from the San Francisco Bay Area, where it was extirpated by development; now it is extant only in Morro Bay and near Cayucos Point in San Luis

Obispo County. It is unlikely to occur within the RMP decision area but may be possible on small surface or mineral estate in San Luis Obispo County. California seablite is threatened by recreation, erosion, and alteration of marsh habitat (CNPS 2009b).

Tuctoria greenei (Greene's tuctoria)
Federal endangered, state rare

Greene's tuctoria is an annual grass found in vernal pools at an elevation of 100 to 3,500 feet. The species is known from Shasta to Tulare Counties and has the potential for occurrence at some vernal pool sites managed by the BLM. Greene's tuctoria is threatened by agriculture, urbanization, and overgrazing (CNPS 2009b).

Other Notable Rare Species

Mimulus shevockii (Kelso Creek monkeyflower)

Kelso Creek monkeyflower is an annual herb found in sparsely vegetated openings within Joshua tree and piñon and juniper woodlands at an elevation of 2,600 to 4,400 feet. The species is known from only ten occurrences in the southern Sierra Nevada (Kern County) within Cyrus Canyon, in the Kelso Creek watershed, and nearby on the Mojave Desert side of the mountains. A recent status report for the Kelso Creek monkeyflower recommends listing the species, based on its rarity and current threats (Thomas 2008). The BLM has managed an area in Cyrus Canyon for the protection of populations of this rare species. A recent donation of land by the Kern Audubon Society has expanded the protected habitat in the canyon. Kelso Creek monkeyflower is also known from BLM lands in the Kelso Creek area. Threats include grazing and OHV activity. One Cyrus Canyon population was destroyed when an adjacent homeowner constructed horse corrals on public land.

B.4.1 WEEDS

Table B-3
Weed Species[1] within the RMP Planning Area

Acacia dealbata	*Cynodon dactylon*	***Oxalis pes-caprae***
A. melanoxylon	*Cynosurus echinatus*	*Panicum capillare*
A. paradoxa	*Cyperus esculentus*	*Peganum harmala*
Achnatherum brachychaetum	*C. rotundus*	*Pennisetum clandestinum*
Acroptilon repens[2]	***Cytisus scoparius***	*P. setaceum*
Aegilops cylindrica	*Dactylis glomerata*	*P. villosum*
A. triuncialis	*Delairea odorata*	*Phalaris aquatica*
Ageratina adenophora	*Descurainia sophia*	*Phragmites australis*
Agrostis avenacea	*Digitalis purpurea*	*Physalis acutifolia*
A. stolonifera	*Dipsacus fullonum*	*Physalis philadelphica*
Ailanthus altissima	*D. sativus*	*Phytolacca americana*
Alhagi maurorum	*Dittrichia graveolens*	*Picris echioides*
A. pseudalhagi	*Echium candicans*	*Piptatherum miliaceum*
Alternanthera philoxeroides	*Egeria densa*	*Plantago lanceolata*

Table B-3
Weed Species[1] within the RMP Planning Area

Ambrosia acanthicarpa	***Ehrharta calycina***	*Poa pratensis*
Ammophila arenaria	*E. erecta*	*Polygonum amphibium* var. *emersum*
Anthoxanthum odoratum	*Eichhornia crassipes*	*P. cuspidatum*
Aptenia cordifolia	*Elodea canadensis*	*P. lapathifolium*
Araujia sericifera	*Elytrigia repens*	*P. persicaria*
Arundo donax	*Emex spinosa*	*Potamogeton crispus*
Asparagus asparagoides	*Erodium cicutarium*	*Prosopis velutina*
Asphodelus fistulosus	*Eucalyptus camaldulensis*	*Ranunculus repens*
Atriplex semibaccata	*E. globulus*	*Raphanus sativus*
Avena barbata	*Euphorbia oblongata*	*Ricinus communis*
A. fatua	*Ficus carica*	*Robinia pseudoacacia*
Bassia hyssopifolia	*Foeniculum vulgare*	*Rorippa palustris*
Bellardia trixago	*Gaura coccinea*	*Rubus discolor*
Brachypodium distachyon	*G. drummondii*	*Rumex acetosella*
Brassica nigra	*G. sinuata*	*R. crispus*
B. rapa	***Genista monspessulana***	*Saccharum ravennae*
B. tournefortii	*Geranium dissectum*	*Salsola paulsenii*
Briza maxima	*Glyceria declinata*	*S. soda*
Bromus diandrus	*Gypsophila paniculata*	***S. tragus***
B. hordeaceus	*Hedera helix*	***S. vermiculata***
B. japonicus	*Helianthus annuus*	*Salvinia molesta*
B. madritensis	*H. ciliaris*	*Saponaria officinalis*
B. madritensis subsp. rubens	*Hirschfeldia incana*	*Schinus molle*
B. tectorum	*Holcus lanatus*	*Senecio jacobaea*
Cakile maritima	*Hydrilla verticillata*	*S. vulgaris*
Cardaria chalepensis	*Hypericum canariense*	*Sesbania punicea*
C.a draba	*H. perforatum*	*Setaria pumila*
C. pubescens	*Hypochaeris glabra*	*S. viridis*
Carduus pycnocephalus	*H. radicata*	*Silybum marianum*
C. tenuiflorus	*Iris douglasiana*	*Sinapis arvensis*
Carpobrotus chilensis	*I. missouriensis*	*Sisymbrium irio*
C. edulis	*I. pseudacorus*	*Solanum carolinense*
Carthamus baeticus	*Iva axillaris*	*S. dimidiatum*
C. lanatus	*Kochia scoparia*	*S. elaeagnifolium*
Cenchrus echinatus	***Lepidium latifolium***	*S. lanceolatum*
C. incertus	*Linaria genistifolia* ssp. *dalmatica*	*S. nigrum*
C. longispinus	*L. vulgaris*	*S. sarrachoides*
Centaurea calcitrapa	*Lolium multiflorum*	*Sonchus arvensis*
C. iberica	*Ludwigia hexapetala*	*Sorghum bicolor*
C. maculosa	*Lupinus arboreus*	*S. halepense*
C. melitensis	***Lythrum salicaria***	***Spartium junceum***
C. solstitialis	*Malvella leprosa*	*Sphaerophysa salsula*
C. squarrosa	*Marrubium vulgare*	*Taeniatherum caput-medusae*

Table B-3
Weed Species[1] within the RMP Planning Area

Chondrilla juncea	*Medicago polymorpha*	*Tagetes minuta*
Chorispora tenella	*Mentha pulegium*	*Tamarix aphylla*
Chrysanthemum coronarium	*Mesembryanthemum crystallinum*	*T. chinensis*
Cirsium arvense	*Myoporum laetum*	*T. gallica*
C. ochrocentrum	*Myosotis latifolia*	*T. parviflora*
C. vulgare	*Myriophyllum aquaticum*	***T. ramosissima***
Conicosia pugioniformis	*M. spicatum*	*Tanacetum vulgare*
Conium maculatum	*Nicotiana glauca*	*Torilis arvensis*
Convolvulus arvensis	*Nothoscordum inodorum*	***Tribulus terrestris***
Cortaderia jubata	*Nymphaea mexicana*	*Trifolium hirtum*
C. selloana	*Olea europaea*	*Verbascum thapsus*
Cotoneaster pannosus	*Ononis alopecuroides*	*Vinca major*
Cotula coronopifolia	*Onopordum acanthium*	*Vulpia myuros*
Crataegus monogyna	*O. tauricum*	*Washingtonia robusta*
Cucumis myriocarpus	*Orobanche ramose*	*Zygophyllum fabago*
Cupressus macrocarpa		
Cynara cardunculus		

[1]Weeds are those included on the Cal-IPC Web pages.
[2]The 22 species in bold are the focus of current weed control/eradication efforts. Source of the list: Consortium of California Herbaria (2009).

B.4.2 VEGETATION - COAST REGION

The Coast Region contains the largest number of plant communities of the three regions. Eighty-eight vegetation alliances are found within or have the potential to be on public lands in the area. Most of the public lands in the Coast Region have not had their vegetation mapped, so exact delineations of vegetation types are not available. Twenty-seven different alliances of woodlands are present, dominated by oaks, other hardwoods, pines, other conifers, or riparian species, primarily willows. Although there are 10 different alliance of oak woodlands within the Coastal Region, most prevalent are those types dominated by blue or coast live oak. Foothill (gray) pine is a common element in some of the blue oak woodlands.

Several of the plant communities have become sufficiently rare to cause local concern. Sensitive plant communities within this region include northern interior cypress forest (Sargent cypress alliance), serpentine chaparral (various chaparral alliance), southern dune scrub (coastal scrub alliance), southern Bishop pine forest (Bishop pine alliance), oak woodlands, and riparian communities.

Twenty-six federally listed plant species occur within the Coast Region (Table B-1, Federally Listed Plants on Public Lands in the RMP Decision Area), but nine of these are unlikely to occur on public lands. Of the remaining 17 species, six are threatened and 11 are endangered. Three of the listed species are known to occur on public lands within the Coast Region, four are suspected to occur,

and the remaining 10 have the potential to occur. In addition, there are 123 BLM sensitive plant species within the Coast Region. Of these, 23 are known to be present on public lands, nine are suspected to occur, and 91 have the potential to be present. Little is known botanically about many of the BLM parcels within this region; little survey data is available for the presence of sensitive plants on public lands. Many potentially impacting uses and activities may occur in varying degrees on these lands. Generally the accessible lands and those lacking dense vegetative cover are subject to surface-disturbing activities and resultant impacts on sensitive plant species and their habitats. Many of the inner coast range areas can be extensively grazed in livestock allotments. Parcels nearer the coastal zone tend to be in steep and densely vegetated areas. Oil and gas development occurs on a limited scale in both the Sespe and Point Conception areas. It is unknown if any sensitive plant species are within the active oil producing leaseholds. Many of the coastal parcels have outstanding botanical resources. Examples include Los Osos with its pygmy oak forest and rare plants, Point Sal and Piedras Blancas with coastal dune communities and several sensitive plant species, Salinas River with its riparian community, Tierra Redonda Mountain with unique sand dunes and sensitive plants, Frog Pond Mountain with its rare bay forest, Cypress Mountain with its Sargent cypress forest and several associated sensitive plant species, Irish Hills with its Bishop pine forest and record trees, and Rusty Peak with its sensitive plant communities and species. These areas have been designated as ACECs, SMAs, or, for the newly acquired parcels, as proposed ACECs or Outstanding Natural Areas (Piedras Blancas).

B.4.3 VEGETATION—VALLEY REGION

The Valley Region contains the fewest plant communities of the three region. Thirty-nine vegetation alliance are found within or have the potential to be on public lands in the region. Most of the BLM lands in the Valley Region have not had their vegetation mapped, so exact delineations of vegetation types are not available. Vegetation primarily consists of grasslands and alkali scrub. There are some blue and Alvord oak woodlands in the ranges on the western side of the region. The Freeborn Mountain area has extensive stands of chaparral, and the Cuyama area includes some juniper woodlands. Some of the alkali scrub communities are now quite rare due to conversion of extensive tracts of San Joaquin Valley land to agriculture.

Thirteen federally listed plant species occur within the Valley Region (Table B-1, Federally Listed Plants on Public Lands in the RMP Decision Area), but three of these are unlikely to occur on public lands. Of the remaining 10 species, three are threatened and seven are endangered. There is also one delisted species, Hoover's woolystar (*Eriastrum hooveri*). Five of the listed species are known to occur in the Valley Region, three are suspected to occur, and the remaining three have the potential to occur. In addition, there are 38 BLM sensitive plant species within the Valley Region. Of these, 22 are known to be present on public lands, seven are suspected to occur, and nine have the potential to be present. Most of these species are associated with either vernal pool ecosystems or alkali scrub communities.

The southern San Joaquin Valley was once covered with alkali scrub communities, estimated at over three million acres in the broad plains of the valley floor and foothills, and dominated by two

perennial species of saltbush (*Atriplex polycarpa* and *A. spinifera*). The rapid development of irrigated agriculture, urbanization, and oil and gas production in the last century has significantly decreased the extent of this vegetation. Less than 10 percent of the original vegetation is now left, most in degraded to fair condition. Large areas of saltbush scrub have been lost or severely degraded by fire. Significant remnant examples of the saltbush scrub community are present in the Lokern area, Semitropic Ridge, Lost Hills, and Buena Vista Valley. Valley Sink Scrub is another natural vegetation type found in the valley. It is restricted to valley bottoms near lake beds, as exemplified by Kern, Tulare, and Goose Lakes. It is best developed in highly alkaline soils that have no external drainage. The vegetation of Valley Sink Scrub is made up of plants that can tolerate high levels of salinity and alkalinity, such as iodine bush (*Allenrolfea occidentalis*) and seepweed (*Suaeda fruticosa*). Water developments and land reclamation for agriculture have virtually eliminated this community from the San Joaquin Valley. It is now considered to be one of the rarest communities by the California Natural Diversity Data Base. The Goose Lake ACEC was established in part to conserve this rare plant community. Past proposals to expand this ACEC have not been successful, and the public land holdings remain at 40 acres.

B.4.4 VEGETATION—SIERRA REGION

The Sierra Region is botanically diverse and relatively unexplored. Sixty-five vegetation alliance are found within or have the potential to be on public lands in the region. Twenty-five different alliance of woodlands are present, primarily dominated by oaks or conifers, but also including willow alliance in riparian areas. Notable vegetation alliance include Piute cypress forest, giant Sequoia forest, Joshua tree woodland, and alkali meadows. There are also extensive oak woodlands. Much of the Sierra Region has not been surveyed for sensitive plant species due to inaccessibility, rough terrain, and lack of resources. The more accessible lands are occasionally subject to surface-disturbing activities, such as grazing and OHV usage, which could impact sensitive plants. A much larger percentage of this region receives little or no impact from BLM-authorized activities because of its wilderness status or isolated nature.

Ten federally listed plant species occur within the Sierra Region (Table B-1, Federally Listed Plants on Public Lands in the RMP Decision Area). Of the 10 species, five are threatened and five are endangered. Four of the listed species are known to occur within the Sierra Region, five are suspected to occur, and one has some potential to occur. In addition, there are 65 BLM sensitive plant species within the Sierra Region. Of these, 27 are known to be present on public lands, 14 are suspected to occur, and 23 have the potential to be present. One alpine species is unlikely to be present on public lands.

Bakersfield cactus, a federally endangered species, occurs in the western portion of this region around Caliente Creek (Kern County). Kelso Creek monkeyflower, a species that many feel should be listed, is the focus of a proposed ACEC in Cyprus Canyon (Kern County); a recent donation of land from the Audubon Society has increased BLM holdings of monkeyflower habitat. No less than 18 new species have been described from the remote and relatively unexplored portions of the southern Sierra Nevada range, an area purported to include upwards of 60 percent of the California

flora. Notable rare species, such as Spanish Needle onion (*Allium shevockii*), Nine-Mile Canyon phacelia (*Phacelia novenmillensis*), Needle's buckwheat (*Eriogonum breedlovei* var. *shevockii*), Charlotte's phacelia (*P. nashiana*), and Walker Pass milkvetch (*Astragalus ertterae*), can be found from Walker Pass to the Spanish Needle, along and near the Pacific Crest Trail.

The region also includes a number of sensitive or unique plant communities or habitats that support sensitive plant species. Marble outcrops that support limestone endemic species occur along Erskine Creek (Kern County) and at Comb Rocks near Milk Ranch Peak (Tulare County). Alkali meadow communities around Isabella Lake (Kern County), South Lake (Kern County), and hot springs areas support the alkali mariposa lily (*Calochortus striatus*). Piute Cypress groves, rare communities in and of themselves, additionally support other rare plants, such as the Piute Mountains jewelflower (*Streptanthus cordatus* var. *piutensis*) and Kern County larkspur (*Delphinium purpusii*).

B.4.5 Forestry

The only lands within the RMP decision area containing woodlands of potential commercial quality are within the Sierra Region in the Case Mountain/Milk Ranch Peak area (Tulare County). Because this is in the Case Mountain Wilderness Study Area, production of forest products is prohibited. Commercial forest lands are not found in the Chimney Peak/Walker Pass area.

The timber industry previously logged approximately 2,500 acres of federal lands on Case Mountain and Milk Ranch Peak and also logged nearby private lands. Logging targeted old growth mixed conifer stands, including giant sequoias on private inholdings on Case Mountain, incense cedar, sugar pine (*P. lambertiana*), ponderosa pine, white fir, and Jeffrey pine. Tractor logging was used, and all logs were trucked to mills in Dinuba or Terra Bella, California. Areas too steep and rocky for tractor operation were not logged. Old haul roads are evident throughout the site. Before 1980, approximately 60 million board feet of timber were extracted from the Case Mountain/Milk Ranch Peak area, primarily during the early 1950s. The BLM acquired 480 acres of privately owned land in 1980 that appeared to have been lightly logged several decades before. The seller still retained the rights to harvest half the remaining merchantable timber, excluding giant sequoia, and in 1981 harvested and trucked three million board feet of timber to the Dinuba mill.

A 4,500-acre lightning-caused fire in late August 1987 burned over much of Case Mountain with raging intensities for approximately two weeks. The three giant Sequoia groves were not damaged by fire, and most of the federal lands were subject to low intensity burning that stayed on the ground.

B.5 Wildlife

B.5.1 Wildlife—Coast Region

Two National Wildlife Refuges occur in this region. The Guadalupe-Nipomo Dunes National Wildlife Refuge is approximately 9.5 miles north of public land within the Pt. Sal ACEC and was established to protect breeding habitat for the endangered California least tern and the threatened

snowy plover. The Pt. Sal ACEC is managed to protect cultural, visual, geological, and biological resources, including rare, threatened, and endangered plant and animal species. The Hopper Mountain National Wildlife Refuge was established to protect the endangered California condor, its habitat, and other resources. The BLM manages approximately 2,025 acres of public land and 3,240 acres of split estate as the Hopper Mountain Special Management Area (SMA). The objective of the Hopper Mountain SMA is to support the California Condor Recovery Program and to complement management of the adjacent Sespe Condor Sanctuary, Hopper Mountain National Wildlife Refuge, and the Sespe-Piru Critical Condor Habitat Area.

The Coast Region provides suitable living conditions for a variety of plant and animal communities. The principal wildlife values found in this area are the state and federally listed and special status animals and those habitats and animals on public land.

Several federally listed species usually considered San Joaquin Valley specialties are found in a limited portion of the Coast Region. The San Joaquin kit fox is found in two areas, the San Juan Creek drainage and a disjunct population at Camp Roberts. The Camp Roberts kit fox population has declined substantially and may no longer be viable. The blunt-nosed leopard lizard and giant kangaroo rat are also found in the San Juan Creek drainage. There is little BLM-managed public land in this drainage, and the presence of these species is undetermined. The federally listed vernal pool fairy shrimp also occurs at Camp Roberts.

The BLM's involvement at Camp Roberts is limited to oil and gas leasing and development. Opportunities for the BLM to manage beyond the requirements of NEPA and the ESA are limited by the small amount of surface acreage under its control.

Approximately five acres of public land in the Los Osos area provides habitat for the federally listed Morro shoulderband snail and is designated critical habitat for the species. The parcel is also historic habitat for the federally listed Morro Bay kangaroo rat.

Public land in the Lompoc area provides potential habitat for the California tiger salamander. Critical habitat includes approximately one acre of public land and 20 acres of split estate.

Potential habitat for the California red-legged frog may occur on public land in the Coast Region. The frogs are known from state land next to public land at Piedras Blancas. Critical habitat includes approximately 80 acres of public land north of Cachuma Lake and approximately 120 acres of split estate near Garcia Mountain.

Critical habitat for arroyo southwestern toad and the coastal California gnatcatcher include split estate. Arroyo southwestern toad critical habitat includes 36 acres of split estate along the Sisquoc River. Additional split estate occurs nearby but outside the critical habitat boundary. Critical habitat for the coastal California gnatcatcher includes 320 acres of split estate near the Ventura-Los Angeles county line. Potential habitat includes public land at South Mountain and estate from Oak Ridge to South Mountain.

Portions of two critical habitat units for steelhead occur in the Coast Region. The south-central California coast critical habitat unit includes approximately 3/8 mile of stream on public land within the Cypress Mountain ACEC and along Dairy Creek, and one and a third miles of stream on split estate within the Salinas River ACEC and Irish Hills SMA and along the north fork of Pico Creek and San Carpoforo Creek. The southern California coast critical habitat unit includes approximately half a mile of stream on public land within the Hopper Mountain SMA and 100 feet of stream on split estate along Gobernador Creek.

Public land in the Coast Region provides habitat for the California condor. The Coast Region includes designated critical and essential condor habitat. The Hi Mountain Critical Habitat Area contains approximately 500 acres of public land near Big Baldy. Public land and split estate in the Hopper Mountain area provides condor nesting and roosting habitat.

Two other raptors of special interest occur within the Coast Region. The peregrine falcon, now a recovered species, is known to use public land at Point Sal and Piedras Blancas. The California spotted owl may occur on public land, especially on parcels next to Los Padres National Forest.

A number of special status wildlife species are restricted to the coastline habitats, offshore rocks, or waters at Point Sal and Piedras Blancas. These are the California brown pelican, western snowy plover, California least tern, marbled murrelet, southern sea otter, northern sea lion, and humpback whale. Three additional species, California sea lion, harbor seal, and northern fur seal, are not special status species but are protected by the Marine Mammal Protection Act. Point Sal is an ACEC with management directives appropriate for the area's importance to cultural and wildlife resources. Piedras Blancas is a National Historic Landmark. Management objectives for both areas include the protection of marine mammals and other wildlife. Western snowy plover habitat also occurs on 10 acres of mineral estate at the southern end of the Pacific Missile Test Center. The surface is managed by the Department of Defense whose management plan provides a benefit to the plover (USFWS 2005).

Abandoned mines and other features provide habitat for several BLM sensitive bat species. Mines in the Coast Ranges, such as Rinconada Mine and Klau Mine, are used by the Townsend's big-eared bat, pallid bat, Yuma myotis, fringed myotis, western pipistrelle, Mexican free-tailed bat, and big brown bat.

The Coast Region contains small to moderate numbers of big and upland game animals. A small herd of tule elk are resident at Camp Roberts. Quail, mourning dove, and chukar partridge are found in small to moderate numbers.

All or a portion the Adelaidea, Pozo, Santa Barbara-Ventura, and Shandon deer herd units occur within the Coast Region, within the Central Coast (south) Deer Assessment Unit 9 (DAU 9). Deer populations are composed of black-tailed deer in the north and California mule deer in the south. Deer in the unit are resident animals that exhibit some upslope and downslope movement with seasonal changes in weather and forage conditions. Population numbers range from 70,000 to

120,000 and are considered to be stable (CDFG 2007, 2008c). Public land managed by the BLM provides four percent of the habitat.

Besides those raptors already mentioned, the Coast Region provides nesting habitat for golden eagle, red-tailed hawk, red-shouldered hawk, American kestrel, prairie falcon, Cooper's hawk, sharp-shinned hawk, turkey vulture, western screech owl, burrowing owl, long-eared owl, northern saw-whet owl, and flammulated owl. The grass-dominated areas provide important wintering habitat for ferruginous hawk, northern harrier, merlin, rough-legged hawk, and short-eared owl. Swainson's hawks also forage over grasslands during fall and spring migrations. In addition to raptors, these grasslands provide important habitat for long-billed curlew and mountain plover.

B.5.2 Wildlife—Valley Region

Three National Wildlife Refuges, Kern, Pixley, and Bittercreek, occur in this region. Approximately 920 acres of BLM-managed public land are within the boundaries of Bittercreek National Wildlife Refuge. The BLM manages 920 acres of public land and 4,840 acres of split estate as the Bittercreek SMA. This is a threatened and endangered species conservation area and is compatible with the USFWS management of the surrounding Bittercreek National Wildlife Refuge. The USFWS established the Bittercreek National Wildlife Refuge to protect foraging habitat for the California condor. There are no public lands within or next to the Kern or Pixley National Wildlife Refuges.

Two National Cooperative Land and Wildlife Management Areas, the Caliente and the Temblor, include approximately 78,630 acres of public land in the Caliente and Temblor Mountain Ranges within the Valley Region. An additional 78,630 acres are within the Carrizo Plain National Monument and are not part of the Bakersfield RMP Decision Area. These National Cooperative Land and Wildlife Management Areas were established in 1961 to be managed by the BLM for the development, conservation, use, and maintenance of their natural resources, including their recreational and wildlife resources (Public Land Order 2326, January 26, 1962, and Public Land Order 2460, May 8, 1957). These National Cooperative Land and Wildlife Management Areas are withdrawn from application under the nonmineral public land laws, and from disposition under the homestead, desert land, and script selection laws (Public Land Order 2326, January 26, 1962, and Public Land Order 2460, May 8, 1957. These areas are managed as the Caliente and Temblor National Cooperative Land and Wildlife Management Area SMA. The Caliente and Temblor NCLWMA SMA is managed to improve and maintain vegetation communities that will benefit wildlife species, including deer, chukar, and quail.

Recent historic range of the California condor includes lands along the western, southern, and eastern border of the Valley Region (USFWS 1996). A portion of the Tejon Ranch Critical Habitat Area is within this region and includes 40 acres of public land and 240 acres of split estate. Essential habitat is deemed important for the recovery of a species but does not have the legal protection of the ESA (USFWS 1984). The San Juan Creek Essential Condor Habitat Area contains approximately 8,000 acres of public land and 7,000 acres of split estate near Freeborn Mountain, Hubbard Hill, and Cholame. The Glennville-Woody Essential Condor Habitat area includes 1,894 acres of public land

and approximately 20,000 acres of split estate. Approximately 20,840 acres of public land and 6,480 acres of split estate are within the Carrizo and Elkhorn Plains Essential Condor Habitat Area. The Southwestern Kern County Essential Condor Habitat Area includes 7,680 acres of public land and 14,000 acres of split estate near Bittercreek National Wildlife Refuge and the Windwolves Preserve. In 1998, the US Fish and Wildlife Service considered a potential condor release site on public land and private land within the Windwolves Preserve. Supplemental condor feeding stations occur at Windwolves Preserve, Bittercreek National Wildlife Refuge, and Tejon Ranch. Public land adjacent to Bitter Creek National Wildlife Refuge in the Headwall Oaks area provide roosting habitat, while the remaining public land in the Valley Region serves primarily as foraging habitat (USFWS 1996).

Blunt-nosed leopard lizards, San Joaquin kit fox, and San Joaquin antelope squirrel are known to occur on public lands throughout the region, including Kettleman Hills, Avenal, Buena Vista Valley, NPR-2, Lokern, Maricopa, Cuyama Valley, and Poso Creek. Giant kangaroo rats are known to occur on public lands throughout the west half of the region, including the NPR-2, Lokern Road, Midway Valley, and Buena Vista Valley. Giant kangaroo rats may occur on public lands in the Cuyama Valley. Tipton kangaroo rats are known to occur on public land at Atwell Island, NPR-2, and within the Alkali Sink ACEC near Copus Road. Tipton kangaroo rats may also occur on other scattered tracts of public land that are east of or next to the California Aqueduct and that support the alkali sink habitat used by the Tipton kangaroo rat. The Valley Region includes one 40-acre parcel of public land and scattered parcels of split estate within the historic range of the Fresno kangaroo rat. No known extant populations of the Fresno kangaroo rat are known to exist within the historic range. Potential habitat for the Buena Vista Lake shrew may occur on public lands in the Alkali Sink ACEC, Atwell Island, and one parcel of land at NPR-2. The Kern primrose sphinx moth was discovered in the Cuyama Valley in 2004 and is likely to occur on public land (Jump 2008). The Cuyama Valley is also an area of hybridization between the blunt-nosed and long nosed leopard lizard. While hybrids are not protected by law, the hybridization zone has been a topic of repeated scientific study (Montanucci 1970; LeFevre 1974, 1975).

The US Fish and Wildlife Service has published recovery plans for the California condor and the San Joaquin Valley suite of species (USFWS 1996, 1998). One of the actions in the Recovery Plan for Upland Species of the San Joaquin Valley, California (USFWS 1998) is to establish a system of multispecies reserves and corridors. These reserves and corridors include significant amounts of public land in Kettleman Hills, Avenal, NPR-2, Buena Vista Valley, Semitropic Ridge, Lokern Road, Lost Hills, Telephone Hills, Bitterwater Creek, Chico-Martinez, Midway Valley, and Upper Cuyama (Map 3.6)(see *A Conservation Strategy for Threatened and Endangered Species in the San Joaquin Valley*). Private lands have also been acquired or placed in mitigation banks in the Lokern Road Area, Buena Vista Valley, NPR-2, and Semitropic Ridge. In addition, the Atwell Island land retirement project is preserving remnant alkali sink habitat and is restoring previously irrigated farmlands to upland natural communities to implement recovery tasks of the San Joaquin Valley Upland Species Recovery Plan.

California red-legged frog critical habitat includes approximately 200 acres of public land and 600 acres of split estate near Blue Stone Ridge. One adult and one juvenile California red-legged frog was observed in a permanent pocket of water approximately a tenth of a mile from public land in 2001 (CDFG 2008b). Critical habitat for the California tiger salamander also occurs near Blue Stone Ridge in the Palo Prieto Pass but does not include any public land or split estate.

Critical habitat for the vernal pool fairy shrimp includes six acres of public land near Pixley National Wildlife Refuge. The vernal pool fairy shrimp has the potential to occur on 140 acres of split estate near Pixley National Wildlife Refuge.

Public land in the Valley Region provides important habitat for a number of BLM sensitive species and California Species of Concern. Such species include burrowing owl, mountain plover, LeConte's thrasher, Tulare grasshopper mouse, and western spadefoot toad.

All or a portion of six deer herd units are within the Valley Region. The Mt. Pinos, Shandon, Avenal, and Pozo deer herd units are within DAU 9, which is discussed above under the Coast Region. The Tejon and South Sierra-Foothill deer herd units are within the South Sierra DAU 7. Deer populations are composed of California mule deer. The nonmigratory Tejon herd was estimated at 1,820 in 2006 and had a stable to declining trend (CDFG 2007, 2008c). Approximately 3,450 acres of public land managed by the BLM is within the Tejon herd unit. The South Sierra-Foothill herd was estimated at 11,760 in 2006 and had a generally upward trend (CDFG 2007, 2008c). The South Sierra-Foothill herd is migratory, with much of the summer range on Forest Service or National Park Service land. Much of the winter range is on private or Forest Service public land. The Valley Region includes approximately 2,200 acres of public land managed by the BLM in the South Sierra-Foothill deer herd unit. Public land managed by the BLM provides four percent of the habitat in DAU 7.

Resident deer also occur throughout the region. No specific plans are written for these herds. For most of these resident deer, fawning habitat consists of meadows and riparian zones with dense cover. No other key habitat areas have been identified. Shrubland areas that provide browse may also be considered key habitat.

CDFG has released pronghorn at various locations in this region, including the Carrizo Plains and Antelope Valley. Pronghorn observations have been reported from Plieto Hills and Blackwells Corner in the north, through the foothills of the Temblors, and south to Camp Dix. Pronghorn are occasionally observed in the Lokern area and also in the eastern portion of this region near Arvin, Cottonwood Creek, and northwest of Bena. Although no specific observations occur for public lands, it is likely that pronghorn occur on public lands.

Tule elk were introduced into the Carrizo Plain in the 1980s (BLM 2008e). The resulting Poso herd unit numbers about 500, and animals commonly occur in the Chimineas Ranch and Taylor Canyon areas.

Wild pigs are known to occur on public land along the north and west flank of the Caliente Range, adjacent to the Carrizo Plain. California quail, chukar, and dove occur throughout the Temblor and Caliente Ranges.

The Valley Region provides habitat for a variety of raptor species, including most of those discussed under the Coast Region. In particular, burrowing owl, Swainson's hawk, red-tailed hawk (*Buteo jamaicensis*), ferruginous hawk, short-eared owl, and white-tailed kite make use of public land in the Valley Region. Kettleman Hills is an especially important foraging, nesting, and wintering area for raptors.

Aquatic, Wetland, and Riparian Habitat

When seasonally flooded, public lands at Goose Lake, Copus Road, and Atwell Island provide wetland habitat for numerous water birds, such as black-necked stilt, American avocet, greater yellow-leg, long-billed dowitcher, western and least sandpipers, mallard, cinnamon teal, green-winged teal, gadwall, northern shoveler, and white pelican. Irrigation canals at Atwell Island provide wetland habitat throughout the year. Scattered springs are known to occur on public land in the region, with many of these occurring in the Caliente, Temblor, and San Emigdio Mountain ranges or foothills. Most of these springs support an area of riparian vegetation around the source, and many support a linear riparian zone as their outflow travels downstream.

B.5.3 Wildlife–Sierra Region

One National Wildlife Refuge, Blue Ridge, occurs in this region. The Blue Ridge National Wildlife Refuge was established to protect important roosting habitat for the California condor. The BLM manages approximately 3,195 acres of public land and 2,100 acres of split estate next to the Blue Ridge National Wildlife Refuge as the Blue Ridge ACEC to protect designated critical condor habitat.

One National Cooperative Land and Wildlife Management Area, Monache Walker Pass National Cooperative Land and Wildlife Management Area, includes approximately 27,000 acres of public land near Lake Isabella, 17,000 acres of public land in the Kelso Creek Valley, and 94,800 acres of public land in the Chimney Peak and Walker Pass area. Public land in the Monache Walker Pass National Cooperative Land and Wildlife Management Area is managed as an SMA to improve and maintain a diverse assemblage of vegetation communities to benefit wildlife resources. Each vegetative community will be managed to perpetuate that particular community and the various wildlife species associated with it.

Recent historic range of the California condor includes lands along the western edge of the Sierra Region east to the foothills of the Sierra Nevada (USFWS 1996). Three of the nine federally designated critical condor habitat areas occur within this region. The Kern County Rangelands Critical Habitat Area includes 120 acres of public land and 4,760 acres of split estate near the town of Woody. The Tulare County Rangelands Critical Habitat Area includes 80 acres of public land near Chickencoop Canyon and 120 acres of split estate near Frazier Valley. The Tejon Ranch Critical

Habitat Area includes 80 acres of public land and 11,565 acres of split estate in the Sierra Region. Approximately 500 acres of public land within the Tejon Ranch Critical Habitat Area were sold to Tejon Ranch in 1986 after formal consultation with the US Fish and Wildlife Service (USFWS 1985; BLM 1985a).

The Blue Ridge Critical Habitat Area includes 3,195 acres of public land and 2,100 acres of split estate. Landowners within the Blue Ridge Critical Habitat Area include the BLM (3,268 acres), US Fish and Wildlife Service (898 acres), California Department of Fish and Game (596 acres), California State Lands Commission (320 acres), and California Department of Forestry (one acre). The 898 acres owned by the US Fish and Wildlife Service has been designated the Blue Ridge National Wildlife Refuge. An interagency habitat management plan for the Blue Ridge area was written in 1986 (BLM 1986a). The area is also a designated ACEC.

Essential habitat for the California condor occurs in the Woody Glennville area of the Sierra Region and includes approximately 1,900 acres of public land and 20,000 acres of split estate. Historically, condors have used public land in the Tehachapi Mountains, such as Cummings Mountain and other scattered parcels.

Vernal pools at Kennedy Table and Table Mountain provides known habitat for the vernal pool fairy shrimp and potential habitat for the vernal pool tadpole shrimp. Critical habitat for the vernal pool fairy shrimp includes 60 acres of public land at Kennedy Table. Critical habitat for the vernal pool tadpole shrimp includes 219 acres of public land and 840 acres of split estate at Table Mountain.

Suitable habitat for the valley elderberry longhorn beetle occurs on public land throughout the Sierra Planning Area. Exit holes resembling those of valley elderberry longhorn beetle have been observed on public lands at San Joaquin River Gorge, Three Rivers, and Keyesville and on scattered tracts in Fresno, Madera, Tulare, and Kern Counties.

Critical habitat for the central California population of the California tiger salamander occurs within the Sierra Region but does not include any public land or split estate. Public land near Raymond is immediately adjacent to critical habitat and it likely to be used by tiger salamanders as terrestrial habitat (Hansen 2005). A survey of ponds in the San Joaquin River Gorge found no evidence of tiger salamanders, although a BLM employee reported observing one in 2003 (Hansen 2009). Abundant suitable habitat is present, but it may be too isolated from large areas of occupied habitat near Millerton Lake. The San Joaquin River Gorge could serve as a reintroduction site, perhaps in response to habitat loss near Friant (Hansen 2009). Terrestrial habitat for tiger salamanders may also occur on public land near the San Joaquin Experimental Range.

California red-legged frogs historically occurred in the Sierra Region (Jennings and Hayes 1994). No extant populations are thought to occur along the Sierra foothills in Madera, Fresno, Tulare, or Kern Counties (Jennings and Hayes 1994). The California red-legged frog is unlikely to occur on public land or split estate in the Sierra Region.

Critical habitat for the southwestern willow flycatcher includes 400 acres of public land along the south fork of the Kern River. The western yellow-billed cuckoo also has the potential to occur on public land in the south fork area.

Kern primrose sphinx moth occurs in the Walker Basin area. Public land may be next to potential habitat for the sphinx moth.

Pacific fisher and California spotted owls have been documented on public lands in the Case Mountain area. California spotted owls are also suspected in other forested parts of the region or nonforested areas with dense stringers of riparian forest. Such habitat may exist on land near Milk Ranch Peak, Chimney Peak, and the San Joaquin River Gorge.

Public land in the Sierra rprovides important habitat for a number of state listed species, BLM sensitive species, and California species of concern. Public land in the Caliente Creek area provides habitat for the Tehachapi slender salamander and yellow-blotched salamander. Abandoned mines, especially in the Keyesville and Caliente Creek area provide habitat for bats, including the pallid bat, Townsend's big-eared bat, fringed myotis, and Yuma myotis. A small isolated population of burrowing owls occurs in the South Lake area. Burrowing owls also occur in the Kelso Valley area (Foothill Institute 1980). Pond turtles occur on public land at the San Joaquin River Gorge, Salt Creek, White River, and Erskine Creek. The willow flycatcher is likely to occur in the Chimney Peak area. The bald eagle and the peregrine falcon have been observed within the planning area and may make use of public lands.

All or a portion of eight deer herd units are within the Sierra Region. All are within DAU 7 and are composed of California mule deer. The south Sierra Foothill deer herd unit is discussed above under the Valley Region. The Sierra Region includes approximately 12,600 acres of public land managed by the BLM within the south Sierra Foothill deer herd unit. The migratory Hume, Kaweah, Tule, Greenhorn, and Kern River deer herd units are within Deer Hunt Zone D8. The population of Deer Hunt Zone D8 was estimated at 10,520 in 2006 and was stable to declining (CDFG 2007, 2008c). The Sierra Region includes approximately 52,700 acres of public land managed by the BLM in these five deer herd units. The nonmigratory Piute deer herd was estimated at 3,150 in 2006 and is stable (CDFG 2007, 2008c). This Sierra Region includes 79,746 acres of public land managed by the BLM in the Havilah, Walker Basin, Kelso Valley, and Tehachapi areas. The migratory Monache deer herd was estimated at 880 in 2006 and is stable (CDFG 2007, 2008c). Public land includes approximately 108,700 acres of winter range in the Chimney Peak area.

Resident deer also occur throughout the region. No specific plans are written for these herds. For most of these resident deer, fawning habitat consists of meadows and riparian zones with dense cover. No other key habitat areas have been identified. Shrubland areas that provide browse may also be considered key habitat.

Pronghorn have been sighted within the region near Arvin and Tehachapi. All observations were on private land.

Besides those raptors already mentioned, the Sierra Region provides habitat for a variety of raptor species, including most of those discussed under the Coast Region. Barn owls roost and nest in abandoned mines and buildings. Great-horned owl, screech owl, saw-whet owl, and pygmy owl are likely to use public lands in the Sierra Region. Prairie falcon, golden eagle, and red-tailed hawk nest on public land in the Chimney Peak and San Joaquin River Gorge.

Aquatic, Wetland, and Riparian Habitat

Extensive riparian inventories have been completed for 14 watersheds in the region. Based on these inventories at least 20 miles of riparian forest, 40 miles of riparian scrub, one mile of marshland and two miles of strandland occur on public lands in the region. Strandlands are beach and river channel communities subject to infrequent but periodic submersion (BLM 1987). Vegetation alliance represented on public land includes alder, cottonwood-willow, oak, and willow. Based on inventory and monitoring conducted by BLM between 1987 and 2009, approximately 67 miles of inventoried stream are in good to excellent condition, and 1.3 miles were in poor to fair condition.

Numerous springs occur throughout the region. Most support an area of riparian vegetation around the source and many support a linear riparian zone as their outflow travels downstream. Based on inventory and monitoring conducted by BLM between 1984 and 2009, approximately 1,000 springs have been inventoried, 80 percent of which are in good to excellent condition and 20 percent are in poor to fair condition.

Table B-4
Special Status Plant Species in the Bakersfield FO Planning Area

Scientific Name	Common Name	Status[1]	Likelihood of Occurrence within Planning Units [2]		
			Coast	Valley	Sierra
Abies bracteata	bristlecone fir	S	P		
Agrostis hooveri	Hoover's bent grass	S	C		
Allium hickmanii	Hickman's onion	S	P		
A. howellii var. *clokeyi*	Mt. Pinos onion	S	P	P	
A. shevockii	Spanish Needle onion	S			C
Ancistrocarphus keilii	Santa Ynez groundstar	S	S		
Aphanisma blitoides	Aphanisma	S	P		
Arabis bodiensis	Bodie Hills rock cress	S			U
Arctostaphylos cruzensis	La Cruz manzanita	S	P		
A. hookeri ssp. *Hearstiorum*	Hearsts' manzanita	S	P		
A. Luciana	Santa Lucia manzanita	S	P		
A. montereyensis	Monterey manzanita	S	P		
A. morroensis	Morro manzanita	T	C		
A. osoensis	Oso manzanita	S	P		
A. pechoensis	Pecho manzanita	S	P		
A. pilosula	Santa Margarita manzanita	S	C		
A. purissima	La Purisima manzanita	S	P		
A. refugioensis	Refugio manzanita	S	P		
A. rudis	sand mesa manzanita	S	C		
A. tomentosa ssp. *Daciticola*	dacite manzanita	S	P		
A. tomentosa ssp. *Eastwoodiana*	Eastwood's manzanita	S	P		
A. wellsii	Wells' manzanita	S	P		
Arenaria paludicola	marsh sandwort	E	P		
Aristocapsa insignis	Indian Valley spineflower	S		C	
Astragalus brauntonii	Braunton's milk-vetch	E	U		
A. didymocarpus var. *milesianus*	Mile's milk-vetch	S	P		
A. ertterae	Walker Pass milk-vetch	S			C
A. hornii var. *hornii*	Horn's milk-vetch	S		C	
A. lentiginosus var. *kernensis*	Kern Plateau milk-vetch	S			P
A. pycnostachyus var. *lanosissimus*	Ventura marsh milk-vetch	E	U		
A. shevockii	Shevock's milk-vetch	S			C
Atriplex cordulata	heartscale	S		C	
A. coronata var. *notatior*	San Jacinto Valley crownscale	E		M	
A. coulteri	Coulter's saltbrush	S	P		
A. depressa	brittlescale	S		P	
A. erecticaulis	Earlimart orache	S		P	
A. joaquiniana	San Joaquin spearscale	S		P	
A. minuscula	lesser saltscale	S		P	
A. pacifica	South Coast saltscale	S	U		

Table B-4
Special Status Plant Species in the Bakersfield FO Planning Area

Scientific Name	Common Name	Status[1]	Likelihood of Occurrence within Planning Units [2]		
			Coast	Valley	Sierra
A. persistens	vernal pool smallscale	S		P	
A. serenana var. *davidsonii*	Davidson's saltscale	S	P		
A. subtilis	subtle orache	S		C	
A. tularensis	Bakersfield smallscale	S		P	
A. vallicola	Lost Hills saltbush	S		C	
Baccharis plummerae ssp. *Glabrata*	San Simeon baccharis	S	P		
Bloomeria humilis	dwarf goldenstar	S	P		
Brodiaea filifolia	thread-leaved brodiaea	T	M		
B. insignis	Kaweah brodiaea	S			C
California macrophyllum	round-leaved filaree	S	C		C
Calochortus clavatus ssp. *Recurvifolius*	Arroyo De La Cruz mariposa lily	S	P		
C. obispoensis	San Luis mariposa lily	S	C		
C. palmeri var. *palmeri*	Palmer's mariposa lily	S	P		P
C. plummerae	Plummer's mariposa lily	S	P		
C. simulans	San Luis Obispo mariposa lily	S	S		
C. striatus	alkali mariposa lily	S		C	C
C. weedii var. *vestus*	late-flowered mariposa lily	S	P		
C. westonii	Shirley Meadows star-tulip	S			C
Calycadenia villosa	dwarf calycadenia	S	S		
Calyptridium parryi var. *hesseae*	Santa Crus Mtns. Pussypaws	S	S		
Calyptridium pulchellum	Mariposa pussypaws	T			S
Calystegia subacaulis ssp. *Episcopalis*	Cambria morning-glory	S	P		
Camissonia hardhamiae	Hardham's evening primrose	S	S		
C. integrifolia	Kern River evening primrose	S			S
Carex obispoensis	San Luis Obispo sedge	S	C		
Carlquistia muirii	Muir's tarplant	S			C
Carpenteria californica	tree anemone	S			S
Castilleja campestris var. *succulent*	succulent owl's-clover	T			C
C. densiflora ssp. *Obispoensis*	Obispo indian paintbrush	S	C		
Caulanthus amplexicaulis var. *barbarae*	Santa Barbara jewelflower	S	P		
C. californicus	California jewelflower	E		C	
C. coulteri var. *lemmonii*	Lemmon's jewelflower	S	C	C	
Ceanothus hearstiorum	Hearst's ceanothus	S	P		
C. maritimus	maritime ceanothus	S	P		
Centromadia parryi ssp. *Australis*	southern tarplant	S	P		

Table B-4
Special Status Plant Species in the Bakersfield FO Planning Area

			Likelihood of Occurrence within Planning Units [2]		
Scientific Name	**Common Name**	**Status[1]**	**Coast**	**Valley**	**Sierra**
C. parryi ssp. *congdonii*	Congdon's tarplant	S	P		
Chamaesyce hooveri	Hoover's spurge	T		P	
Chlorogalum pomeridianum var. *minus*	dwarf soaproot	S	P		
C. purpureum var. *purpureum*	purple amole	T	S		
C. purpureum var. *reductum*	Camatta Canyon amole	T	P		
Chorizanthe blakleyi	Blakley's spineflower	S	P		
C. breweri	Brewer's spineflower	S	C		
C. parryi var. *fernandina*	San Fernando Valley spineflower	S	P		
C. pungens var. *pungens*	Monterey spineflower	T	P		
C. rectispina	straight-awned spineflower	S	C		
Cirsium crassicaule	slough thistle	S		C	
C. fontinale var. *obispoense*	Chorro Creek bog thistle	E	C		
C. loncholepis	La Graciosa thistle	E	S		
C. occidentale var. *compactum*	compact cobwebby thistle	S	C		
C. rhothophilum	surf thistle	S	S		
Clarkia australis	small southern clarkia	S			S
C. jolonensis	Jolon clarkia	S	P		
C. speciosa ssp. *Immaculate*	Pismo clarkia	E	P		P
C. springvillensis	Springville clarkia	T			C
C. tembloriensis ssp. *Calientensis*	Caliente clarkia	S		S	
C. xantiana ssp. *Parviflora*	Kern Canyon clarkia	S			P
Collinsia antonina	San Antonio collinsia	S	P		
Cordylanthus eremicus ssp. *Kernensis*	Kern Plateau bird's-beak	S			P
C. maritimus ssp. *Maritimus*	salt marsh bird's-beak	E	P		
C. mollis ssp. *hispidus*	hispid bird's-beak	S		C	
C. palmatus	palmate-bracted bird's-beak	E		U	
C. rigidus ssp. *littoralis*	seaside bird's-beak	S	S		
Cryptantha incana	Tulare cryptantha	S			P
Deinandra arida	Red Rock tarplant	S			P
D. halliana	Hall's tarplant	S	P		
D. increscens ssp. *foliosa*	leafy tarplant	S	P		
D. increscens ssp. *villosa*	Gaviota tarplant	E	S		
D. minthornii	Santa Susana tarplant	S	P		
D. mohavensis	Mojave tarplant	S	P	P	
Delphinium inopinum	unexpected larkspur	S			P
D. parryi ssp. *Blochmaniae*	dune larkspur	S	C		

Table B-4
Special Status Plant Species in the Bakersfield FO Planning Area

Scientific Name	Common Name	Status[1]	Likelihood of Occurrence within Planning Units [2]		
			Coast	Valley	Sierra
D. purpusii	Kern County larkspur	S			C
D. recurvatum	valley larkspur	S		C	
D. umbraculorum	umbrella larkspur	S	C		
Dithyrea maritima	beach spectaclepod	S	C		
Dudleya abramsii ssp. *bettinae*	San Luis Obispo serpentine dudleya	S	P		
D. abramsii ssp. *murina*	San Luis Obispo dudleya	S	C		
D. blochmaniae ssp. *blochmaniae*	Blochman's dudleya	S	P		
D. cymosa ssp. *agourensis*	Santa Monica Mountains dudleya	T	U		
D. cymosa ssp. *costafolia*	Pierpoint Springs dudleya	S			P
D. cymosa ssp. *marcescens*	marcescent dudleya	T	U		
D. parva	Conejo dudleya	T	U		
D. verityi	Verity's dudleya	T	U		
Entosthodon kochii	Koch's cord moss	S	S		
Eremalche parryi ssp. *kernensis*	Kern mallow	E		C	
Eriastrum hooveri	Hoover's woolystar	D		C	
E. luteum	yellow-flowered eriastrum	S	C		
Ericameria gilmanii	Gilman's goldenbush	S			P
Erigeron aequifolius	Hall's daisy	S			P
E. blochmaniae	Blochman's leafy daisy	S	S		
E. inornatus var. *keilii*	Keil's daisy	S			P
E. multiceps	Kern River daisy	S			C
Eriogonum kennedyi var. *austromontanum*	southern mountain buckwheat	T	P		
Eriodictyon altissimum	Indian Knob mountainbalm	E	C		
E. capitatum	Lompoc yerba santa	E	S		
E. breedlovei var. *breedlovei*	Breedlove's buckwheat	S			P
E. crocatum	Conejo buckwheat	S	P		
E. kennedyi var. *pinicola*	Cache Peak buckwheat	S			C
E. nudum var. *murinum*	mouse buckwheat	S			C
E. temblorense	Temblor buckwheat	S	S	S	
Eriophyllum lanatum var. *hallii*	Fort Tejon woolly sunflower	S	P	P	
Eryngium aristulatum var. *hooveri*	Hoover's button-celery	S	P		
E. spinosepalum	spiny-sepaled button-celery	S		C	C
Erythronium pusaterii	Kaweah fawn lily	S			P
Eschscholzia lemmonii ssp. *kernensis*	Tejon poppy	S		P	

Table B-4
Special Status Plant Species in the Bakersfield FO Planning Area

Scientific Name	Common Name	Status[1]	Likelihood of Occurrence within Planning Units [2]		
			Coast	Valley	Sierra
E. rhombipetala	diamond-petaled California poppy	S	C	C	
Fritillaria brandegeei	Greenhorn fritillary	S			P
F. ojaiensis	Ojai fritillary	S	S		
F. striata	striped adobe-lily	S		C	C
F. viridea	San Benito fritillary	S	P		
Galium angustifolium ssp. *onycense*	Onyx Peak bedstraw	S			C
G. hardhamiae	Hardham's bedstraw	S	C		
Githopsis tenella	delicate bluecup	S			P
Gratiola heterosepala	Bogg's lake hedge-hyssop	S		C	
Grindelia hirsutula var. *maritima*	San Francisco gumplant	S	P		
Hesperocyparis nevadensis	Piute cypress	S			C
Heterotheca shevockii	Shevock's golden-aster	S			P
Horkelia cuneata ssp. *puberula*	mesa horkelia	S	P		
H. cuneata ssp. *sericea*	Kellogg's horkelia	S	P		
H. tularensis	Kern Plateau horkelia	S			P
Hulsea brevifolia	short-leaved hulsea	S			P
Iris munzii	Munz's iris	S			S
Ivesia campestris	field ivesia	S			P
Juncus luciensis	Santa Lucia dwarf rush	S	P		
Lasthenia californica ssp. *macrantha*	perennial goldfields	S	P		
L. conjugens	Contra Costa goldfields	E	U		.
L. glabrata ssp. *coulteri*	Coulter's goldfields	S	C	C	C
Layia carnosa	beach layia	E	P		
L. heterotricha	pale-yellow layia	S	C	C	
L. jonesii	Jones' layia	S	C		
L. leucopappa	Comanche Point layia	S		C	
L. munzii	Munz's tidy tips	S		S	
Lepidium jaredii ssp. *album*	Panchoe peppergrass	S		P	
L. jaredii ssp. *jaredii*	Jared's peppergrass	S		S	
Leptosiphon serrulatus	Madera linanthus	S			P
Lewisia disepala	Yosemite lewisia	S			P
Lonicera subspicata var. *subspicata*	Santa Barbara honeysuckle	S	P		
Lupinus citrinus var. *citrinus*	orange lupine	S			S
L. ludovicianus	San Luis Obispo lupine	S	C		
L. nipomensis	Nipomo mesa lupine	E	U		
L. padre-crowleyi	Father Crowley's lupine	S			P

Table B-4
Special Status Plant Species in the Bakersfield FO Planning Area

Scientific Name	Common Name	Status[1]	Likelihood of Occurrence within Planning Units [2]		
			Coast	Valley	Sierra
Madia radiata	showy madia	S		S	
Malacothamnus abbottii	Abbott's bush-mallow	S	P		
Malacothamnus aboriginum	Indian Valley bush-mallow	S	P		
Malacothamnus davidsonii	Davidson's bush mallow	S	P		
M. palmeri var. *involucratus*	Carmel Valley bush mallow	S	P		
M. palmeri var. *palmeri*	Santa Lucia bush mallow	S	P		
Malacothrix saxatilis var. *arachnoidea*	Carmel Valley malacothrix	S	P		
Microseris paludosa	marsh microseris	S	P		
Mimulus gracilipes	slender-stalked monkeyflower	S			S
M. norrisii	Kaweah monkeyflower	S			C
M. pictus	Calico monkeyflower	S		C	C
M. shevockii	Kelso Creek monkeyflower	S			C
Monardella crispa	crisp monardella	S	C		
M. frutescens	San Luis Obispo monardella	S	S		
M. linoides ssp. *oblonga*	flax-like monardella	S		P	P
M. palmeri	Palme's monardella	S	P		
Monolopia congdonii	San Joaquin woollythreads	E		C	C
Nasturium gambelii	Gambel's water cress	E	P		
Navarretia fossalis	spreading navarretia	T	P		
N. nigelliformis ssp. *radians*	shining navarretia	S	P		
N. peninsularis	Baja navarretia	S			P
N. prostrata	prostrate pincushionplant	S	P		
N. setiloba	Piute Mountains navarretia	S			S
Nemacladus twisselmannii	Twisselmann's nemacladus	S			P
Nolina cismontana	chaparral nolina	S	P		
Opuntia basilaris var. *treleasei*	Bakersfield cactus	E		S	S
Orcuttia californica	California Orcutt grass	S	P		
O. inaequalis	San Joaquin Valley Orcutt grass	T		C	C
O. pilosa	hairy Orcutt grass	E		P	
Oreonana vestita	woolly mountain-parsley	S			P
Orobanche valida ssp. *valida*	Rock Creek broomrape	S	P		
Orthotrichum shevockii	Shevock's bristle-moss	S			P
O. spjutii	Spjut's bristle-moss	S			P
Oxytheca parishii var. *abramsii*	Abrams's oxytheca	S	P		
Pedicularis dudleyi	Dudley's lousewort	S	P		
Pentachaeta lyonii	Lyon's pentachaeta	E		U	
Petrophyton caespitosum ssp. acuminatum	marble rockmat	S			P

Table B-4
Special Status Plant Species in the Bakersfield FO Planning Area

Scientific Name	Common Name	Status[1]	Likelihood of Occurrence within Planning Units [2]		
			Coast	Valley	Sierra
Phacelia nashiana	Charlotte's phacelia	S			C
P. novenmillensis	Nine Mile Canyon phacelia	S			C
Pinus radiata	Monterey pine	S	P		
Plagiobothrys uncinatus	hooked popcorn-flower	S	S		
Poa diaboli	Diablo Canyon blue grass	S	P		
Pseudobahia bahiifolia	Hartweg's golden sunburst	E		S	S
P. peirsonii	Tulare pseudobahia	T		S	S
Quercus dumosa	Nuttall's scrub oak	S	P		
Ribes menziesii var. *ixoderme*	aromatic canyon gooseberry	S			P
R. tularense	Sequoia gooseberry	S			C
Sagittaria sanfordii	Sanford's arrowhead	S			P
Sanicula maritima	adobe sanicle	S	C		
Scrophularia atrata	black-flowered figwort	S	P		
Sidalcea hickmanii ssp. *anomala*	Cuesta Pass checkerbloom	S	S		
S. hickmanii ssp. *parishii*	Parish's checkerbloom	C	S		
S. keckii	Keck's checkerbloom	E			S
Streptanthus albidus ssp. *peramoenus*	most beautiful jewelflower	S	S		
Streptanthus campestris	southern jewelflower	S	P		
S. cordatus var. *piutensis*	Piute Mountains jewelflower	S			C
Stylocline citroleum	oil neststraw	S		C	
S. masonii	Mason neststraw	S		S	S
Suaeda californica	California seablite	E	P		
S. esteroa	estuary seablite	S	P		
Thermopsis macrophylla	false lupine	S	P		
Tortula californica	California tortula moss	S		S	
Trifolium depauperatum var. *hydrophilum*	saline clover	S	P		
T. macilentum var. *dedeckerae*	DeDecker's clover	S			C
Triteleia ixioides ssp. *cookii*	Cook's triteleia	S	P		
Tropidocarpum californicum	King's gold	S		P	
Tuctoria greenei	Greene's tuctoria	E		P	
Viola pinetorum ssp. *grisea*	grey-leaved violet	S			P

[1]Status
E = Federally-listed endangered
T = Federally-listed threatened
C = Federal candidate for listing
D = Federally delisted
S = BLM sensitive

[2] Likelihood of Occurrence within Planning Units:
C = Confirmed
S = Suspected
P = Potential
U = Unlikely

Table B-5
Special Status Animal Species in the Bakersfield FO Planning Area

Common Name	*Scientific Name*	Status				Occurrence		
		Federal	BLM	State	Other	C	V	S
Snails								
Morro shoulderband snail	*Helminthoglypa walkeriana*	FE, CH				K	N3	N3
Fairy Shrimp And Tadpole Shrimp								
Longhorn fairy shrimp	*Branchinecta longiantenna*	FE, CH				N1	L1	N3
Vernal pool fairy shrimp	*Branchinecta lynchi*	FT, CH				N1	L1	K
Conservancy fairy shrimp	*Branchinects conservatio*	FE, CH				N1	N2	N2
Vernal pool tadpole shrimp	*Lepidurus packardi*	FT, CH				N3	N3	H
Insects								
San Joaquin dune beetle	*Coelus gracilis*		BLMS			N3	L1	N3
Valley elderberry longhorn beetle	*Desmocerus dimorphus*	FT, CH				N	L	H
Kern primrose sphinx moth	*Euproserpinus euterpe*	FT				N	K?	L1
Fish								
Tidewater goby	*Eucyclogobius newberryi*	FE, CH		CSC		N1	N3	N3
Unarmored threespine stickleback	*Gasterosteus aculeatus williamsoni*	FE, PCH		CE, FP		N1	N3	N3
Kern brook lamprey	*Lampetra hubbsi*			CSC		N3	N1	N3
Pacific lamprey	*L. tridentata*		BLMS			L	N3	N3
Lahontan cutthroat trout	*Oncorhynchus clarki henshawi*	FT				N3	N3	N3
Paiute cutthroat trout	*O. c. seleniris*	FT				N3	N3	N3
CA golden trout (Volcano Creek)	*O. mykiss aguabonita*	REV		CSC		N3	N3	N2?
Kern River rainbow trout	*O. m. gilberti*			CSC		N3	N3	N2
Steelhead (Southern CA coast)*	*O. m. irideus*	FE, CH		CSC		N1	N3	N3
Steelhead (South-central CA coast)*	*O. m. irideus*	FT, CH		CSC		N1	N3	N3
Little Kern golden trout	*O. m. whitei*	FT, CH				N3	N3	N1
Amphibians								
CA tiger salamander (Cen CA DPS)	*Ambystoma californiense*	FT, CH		CSC		N3	L1	H
CA tiger salamander (SB DPS)	*A. californiense*	FE, CH		CSC		H	N3	N3

Table B-5
Special Status Animal Species in the Bakersfield FO Planning Area

		Status				Occurrence		
Common Name	***Scientific Name***	**Federal**	**BLM**	**State**	**Other**	**C**	**V**	**S**
Arroyo toad	*Anaxyrus californicus*	FE, CH		CSC		LI	LI	N3
Kern Canyon slender salamander	*Batrachoseps simatus*			CT		N3	N3	M2
Tehachapi slender salamander	*B. stebbinsi*	REV	BLMS	CT		N3	N3	K
Relictual slender salamander	*B. relictus*			CSC		N3	N3	L1
Breckenridge Mountain slender salamander	*B. sp.*			CSC		N3	N3	L2
Yellow-blotched salamander	*Ensatina eschscholtzi croceater*		BLMS	CSC		M2	N3	M2
Foothill yellow-legged frog	*Rana boylei*		BLMS	CSC		M1	N3	L1
California red-legged frog	*R. draytoni*	FT, CH		CSC	AWL	M1	L1	L1
Mtn yellow-legged frog (So. CA DPS)	*R. muscosa*	FE, CH				N3	N3	N3
Mtn yellow-legged frog (Sierran DPS)	*R. muscosa*	FC				N3	N3	N2
Western spadefoot toad	*Scaphiopus hammondi*		BLMS	CSC		M1	K	L1
Reptiles								
Northwestern pond turtle	*Actinemys marmorata marmorata*			CSC		N3	M1	K
Southwestern pond turtle	*A. m. pallida*		BLMS	CSC		K	M1	K
Blunt-nosed leopard lizard	*Gambelia sila*	FE		CE, FP		M1	K	N3
Coast horned lizard	*Phrynosoma blainvillei*		BLMS	CSC		H	K	N3
Northern sagebrush lizard	*Sceloporus graciosus graciosus*		BLMS			M1	L1	M1
Island night lizard	*Xantusia riversiana*	FT		CSC		N1	N3	N3
Sierra night lizard	*X. sierrae*			CSC		N3	N3	L1
California legless lizard	*Anniella pulchra*			CSC		H	K	H
Southern rubber boa	*Charina bottae umbratica*			CT		M2	N3	N3
California mountain kingsnake	*Lampropeltis zonata*		BLMS			M1	N3	H
San Joaquin whipsnake	*Masticophis flagellum ruddocki*			CSC		H	H	H
Giant garter snake	*Thamnophis gigas*	FT		CT		N3	L1	N3
Two-striped garter snake	*T. hammondii*		BLMS	CSC		M1	L1	N3

Table B-5
Special Status Animal Species in the Bakersfield FO Planning Area

Common Name	*Scientific Name*	Status				Occurrence		
		Federal	BLM	State	Other	C	V	S
Birds								
Aleutian Canada goose	*Branta canadensis leucopareia*	REC				N1	L1	N1
Barrow's goldeneye	*Bucephala islandica*			CSC		N1	N1	L1
Fulvous whistling-duck	*Dendrocygna bicolor*			CSC		L1	L1	L1
Harlequin duck	*Histrionicus histrionicus*			CSC		N1	N1	L1
Mountain quail	*Oreotyx pictus*				AWL	K	K	K
Common loon	*Gavia immer*			CSC		N1	N1	N1
Fork-tailed storm-petrel	*Oceanodroma furcata*		BLMS	CSC		L2	N3	N3
Ashy storm-petrel	*O. homochroa*		BLMS	CSC	AWL	M2	N3	N3
Black storm-petrel	*O. melania*			CSC	AWL	L2	N3	N3
American white pelican	*Pelecanus erythrorhynchos*			CSC		N1	K	K
California brown pelican	*P. occidentalis californicus*	REC	BLMS	CE		K	N1	N1
Western least bittern	*Ixobrychus exilis hesperis*			CSC		L1	L1	N1
California condor	*Gymnogyps californianus*	FE, CH		CE	AWL	K	K	K
Northern goshawk	*Accipiter gentilis*		BLMS	CSC		L1	L1	L2
Golden eagle	*Aquila chrysaetos*		BLMS	FP		K	K	K
Swainson's hawk	*Buteo swainsoni*		BLMS	CT	AWL	M2	K	M2
Northern harrier	*Circus cyaneus*			CSC		H	K	K
White-tailed kite	*Elanus leucurus*		BLMS	FP		K	K	M2
Bald eagle	*Haliaeetus leucocephalus*	REC	BLMS	CE, FP		M2	H	M2
American peregrine falcon	*Falco peregrinus anatum*	REC		REC, FP		K	H	M2
California black rail	*Laterallus jamaicensis coturniculus*		BLMS	CT, FP	AWL	N1	N3	N3
Light-footed clapper rail	*Rallus longirostris levipes*	FE		CE, FP		N1	N3	N3
California clapper rail	*R. l. obsoletus*	FE		CE, FP		N1	N3	N3
Greater sandhill crane	*Grus canadensis tabida*			CT, FP		L1	L1	L1
Western snowy plover (interior)	*Charadrius alexandrinus nivosus*			CSC		N3	K	N2
Western snowy plover (coast)	*C. a. nivosus*	FT, CH		CSC	AWL	H	N3	N3
Mountain plover	*C. montanus*		BLMS	CSC	AWL	M2	K	M1
Long-billed curlew	*Numenius americanus*				AWL	H	K	N3
Black tern	*Chlidonias nigre*			CSC		L1	L1	L1
California least tern	*Sterna antillarum browni*	FE		CE, FP		H	N3	N3
Elegant tern	*Thalasseus elegans*				AWL	H	N3	N3

Table B-5
Special Status Animal Species in the Bakersfield FO Planning Area

Common Name	*Scientific Name*	Status				Occurrence		
		Federal	BLM	State	Other	C	V	S
Marbled murrelet	*Brachyramphus marmoratus*	FT, CH		CE	AWL	H	N3	N3
Tufted puffin	*Fratercula cirrhata*			CSC		L2	N3	N3
Xanthus murrelet	*Synthliboramphus hypoleucus*	FC	BLMS	CT	AWL	N2	N3	N3
Western yellow-billed cuckoo	*Coccyzus americanus occidentalis*	FC	BLMS	CE		N3	L1	L1
Short-eared owl	*Asio flammeus*			CSC	AWL	M1	H	M1
Long-eared owl	*A. otus*			CSC		L2	L2	H
Burrowing owl	*Athene cunicularia*		BLMS	CSC		M1	K	M2
Flammulated owl	*Otus flammeolus*				AWL	H	H	H
California spotted owl	*Strix occidentalis occidentalis*		BLMS	CSC	AWL	M1	M1	K
Black swift	*Cypseloides niger*			CSC	AWL	L2	L2	M2
Costa's hummingbird	*Calypte costae*				AWL	H	N3	H
Allen's hummingbird	*Selasphorus sasin*				AWL	H	N3	N3
White headed woodpecker	*Picoides albolarvatus*				AWL	H	H	H
Olive-sided flycatcher	*Contopus cooperi*			CSC	AWL	N3	H	H
Willow flycatcher	*Empidonax traillii*			CE	AWL	L1	N3	H
Southwestern willow flycatcher	*E. t. extermis*	FE, CH		CE	AWL	N3	N3	K
Vermilion flycatcher	*Pyrocephalus rubinus*			CSC		L1	L1	L1
Loggerhead shrike	*Lanius ludovicianus*			CSC		K	K	K
Least bell's vireo	*Vireo bellii pusillus*	FE, CH		CE	AWL	N2	N2	N2
Gray vireo	*V. vicinior*		BLMS	CSC	AWL	N3	N3	M2
Purple martin	*Progne subis*			CSC		L1	L1	L1
Bank swallow	*Riparia riparia*		BLMS	CT		L1	L1	L1
Oak titmouse	*Baeolophus inornatus*				AWL	H	H	N3
Coastal California gnatcatcher	*Polioptila californica californica*	FT, CH		CSC	AWL	L1	N3	N3
Bendire's thrasher	*Toxostoma bendirei*		BLMS	CSC	AWL	N3	N3	N3
Le Conte's thrasher	*T. lecontei*		BLMS	CSC	AWL	N1	K	L1
Hermit warbler	*Dendroica occidentalis*			CSC	AWL	H	N3	H
Yellow warbler	*D. petechia brewsteri*			CSC		H	H	K
Yellow-breasted chat	*Icteria virens*			CSC		H	H	H
Channel Island song sparrow	*Melospiza melodia graminea*			CSC		N	N	N
Belding's savannah sparrow	*Passerculus sandwichensis beldingi*			CE		N1	N3	N3
Large-billed savannah sparrow	*P. s. rostratus*			CSC		N1	N3	N3
Summer tanager	*Piranga rubra*			CSC		N3	N3	L1
Black chinned sparrow	*Spizella atrogularis*				AWL	H	H	H

Table B-5
Special Status Animal Species in the Bakersfield FO Planning Area

Common Name	*Scientific Name*	Status				Occurrence		
		Federal	BLM	State	Other	C	V	S
Kern red-winged blackbird	*Agelaius phoeniceus aciculatus*			CSC		N3	N3	H
Tricolored blackbird	*A. tricolor*		BLMS	CSC	AWL	H	H	H
Lawence's goldfinch	*Carduelis lawrencei*				AWL	H	N3	H
Mammals								
Buena Vista Lake shrew	*Sorex ornatus relictus*	FE, CH		CSC		N3	M1 ?	N3
California leaf-nosed bat	*Macrotus californicus*		BLMS	CSC		L1	N3	N3
Pallid bat	*Antrozous pallidus*		BLMS	CSC		K	K	K
Townsend's western big-eared bat	*Corynorhinus townsendii*		BLMS	CSC		M1	M1	K
Spotted bat	*Euderma maculatum*		BLMS	CSC		L1	L1	M2
Western red bat	*Lasiurus blossevillii*			CSC		M1	M1	M1
Western small-footed myotis	*Myotis ciliolabrum*		BLMS			M1	M1	M1
Long-eared myotis	*M. evotis*		BLMS			M1	M1	M1
Fringed myotis	*M. thysanodes*		BLMS			M1	M1	K
Yuma myotis	*M. yumanensis*		BLMS			M1	M1	K
Western mastiff-bat	*Eumops perotis californicus*		BLMS	CSC		M2	H	M2
San Joaquin antelope squirrel	*Ammospermophilus nelsoni*		BLMS	CT		L1	K	N3
Mohave ground squirrel	*Xerospermophilus mohavensis*		BLMS	CT		N3	N3	M2
Morro Bay kangaroo rat	*Dipodomys heermanni morroensis*	FE, CH		CE, FP		L1	N3	N3
Giant kangaroo rat	*D. ingens*	FE		CE		L1	K	N3
Short-nosed kangaroo rat	*D. nitratoides brevinasus*		BLMS	CSC		M2	K	N3
Fresno kangaroo rat	*D. n. exilis*	FE, CH		CE		N3	L1	N3
Tipton kangaroo rat	*D. n. nitrtoides*	FE		CE		N3	K	N3
Yellow-eared pocket mouse	*Perognathus (parvus) xanthonotus*		BLMS			N3	N3	M2
Tehachapi white-eared pocket mouse	*P. alticola inexpectatus*		BLMS	CSC		M2	M2	M2
San Joaquin pocket mouse	*P. inornatus inornatus*		BLMS			H	K	H
Salinas pocket mouse	*P. i. psammophilus*			CSC		M2	N3	N3
Los Angeles pocket mouse	*P. longimembris brevinasus*			CSC		N3	N3	N3
San Joaquin valley woodrat	*Neotoma fuscipes riparia*	FE		CSC		N3	N3	N3

Table B-5
Special Status Animal Species in the Bakersfield FO Planning Area

Common Name	*Scientific Name*	Status				Occurrence		
		Federal	BLM	State	Other	C	V	S
Tulare grasshopper mouse	*Onychomys torridus tularensis*		BLMS	CSC		M2	H	M2
Island fox	*Urocyon littoralis*	FE		CT		N1	N3	N3
San Joaquin kit fox	*Vulpes macrotis mutica*	FE		CT		K	K	N3
Sierra Nevada red fox	*V. vulpes necator*			CT		N3	N3	L1
Southern sea otter	*Enhydra lutris nereis*	FT		FP		K	N3	N3
Southern sea otter (South of Pt. Conception)	*E. l. nereis*	EXPN		FP		H	N3	N3
Wolverine	*Gulo gulo luscus*	FC		CT, FP		N3	N3	L1
Fisher (West Coast DPS)	*Martes pennanti*	FC	BLMS	CSC		N3	N3	K
Badger	*Taxidea taxus*			CSC		K	K	H
Guadalupe fur seal*	*Arctocephalus townsendi*	FT		CT, FP		L1	N3	N3
Northern sea lion (eastern pop.)*	*Eumetopias jubatus*	FT, CH				K	N3	N3
CA bighorn sheep (Sierra Nevada pop.)	*Ovis canadensis sierrae*	FE, CH		CE, FP		N3	N3	N2
Blue whale*	*Balaenoptera musculus*	FE				L	N	N
Gray whale*	*Eschrichtius robustus*	REC				K	N	N
Humpback whale*	*Megaptera novaeangliae*	FE				H	N	N

KEY:

FEDERAL STATUS
FE = Federal Endangered
FT = Federal Threatened.
FC = Federal Candidate
REC = Recovered
REV = Under Review
CH = Designated Critical Habitat
PCH = Proposed Critical Habitat

BLM STATUS
BLMS = BLM California Sensitive Species

STATE STATUS
CE = California Endangered
CT = California Threatened
CSC = California Species of Special Concern
FP = Fully Protected Species

OTHER
AWL = American Bird Conservancy Watchlist
***** = National Marine Fisheries Service species

OCCURRENCE on Public Land
C = Coast Planning Area
V = Valley Planning Area
S = Sierra Planning Area

K = Known to occur on public lands
H = Highly likely
M1 = Likely, but limited habitat
M2 = Likely, but localized species
L = Unlikely
L1 = Unlikely, localized species and limited habitat
L2 = Unlikely, very localized species
N = Very unlikely
N1 = Very unlikely, no suitable habitat
N2 = Very unlikely, limited suitable habitat exists but known no to be occupied
N3 = Very unlikely, outside normal range
U = Unknown

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APPENDIX C

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VISUAL RESOURCE INVENTORY
BAKERSFIELD FIELD OFFICE

June 2009

Prepared for:

US Department of Interior, Bureau of Land Management
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LIST OF ACRONYMS

Acronym or Abbreviation	Full Phrase
BLM	Bureau of Land Management
EIS	environmental impact statement
BKFO	Bakersfield Field Office
RMP	resource management plan
SLRU	sensitivity level rating unit
SQRU	scenic quality rating unit
VRM	visual resource management

SECTION 1
INTRODUCTION

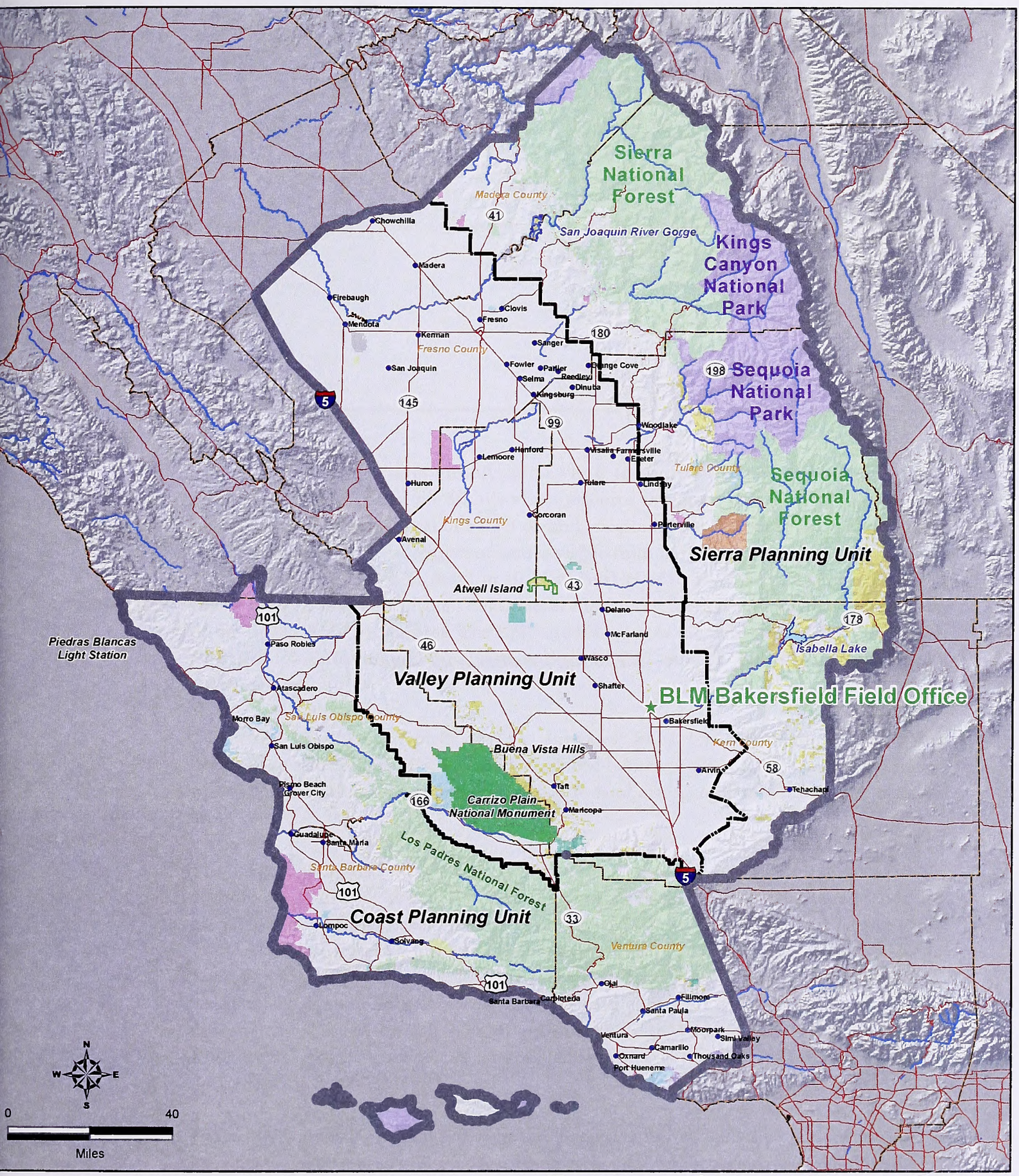
The US Department of the Interior, Bureau of Land Management (BLM), Bakersfield Field Office (BKFO), is preparing a resource management plan (RMP). The purpose of the RMP is to guide the BLM in managing public lands within the administrative boundary of the BKFO in central California. The BKFO planning area administrative boundary encompasses about 17 million acres throughout Kings, San Luis Obispo, Santa Barbara, Tulare, Ventura, Madera, eastern Fresno, and western Kern Counties. The planning area encompasses lands within the BKFO administrative boundary regardless of public or private ownership. Within the planning area, the BKFO RMP decision area encompasses about 403,911 acres of public lands (Figure 1). The BLM's decision area includes minerals of split estate, where the BLM administers federal minerals that are below the surface of land not owned by the federal government, such as private land. The RMP decision area does not include other private lands, state lands, Indian reservations, federal lands not administered by the BLM, and lands within the planning areas of the RMPs for the Carrizo Plain and for the California Coastal National Monument.

In order to meet its responsibility to maintain the scenic values of the public lands, the BLM has developed a visual resource management (VRM) system that addresses the following (BLM 2009):

- Different levels of scenic values require different levels of management. For example, management of an area with high scenic value might be focused on preserving the character of the landscape, and management of an area with little scenic value might allow for major modifications to the landscape. Determining how an area should be managed first requires an assessment of the area's scenic values.
- Assessing scenic values and determining visual impacts can be a subjective process. Objectivity and consistency can be greatly increased by using the basic design elements to also describe proposed projects. These design elements are form, line, color, and texture, and they have often been used to describe and evaluate landscapes. Projects that repeat these design elements are usually in harmony with their surroundings; those that do not repeat these elements create contrast. By

adjusting project designs so the elements are repeated, visual impacts can be minimized.

The BLM's VRM system provides a way to identify and evaluate scenic values to determine the appropriate levels of management. It also provides a way to analyze potential visual impacts and to apply visual design techniques to ensure that surface-disturbing activities are in harmony with their surroundings. The BLM's VRM system consists of the inventory stage (visual resource inventory) and the analysis stage (visual resource contrast rating). In support of RMP preparation, the BLM has prepared this visual resource inventory, which covers the decision area described above.



Legend

- Planning Unit Boundaries
- Kern — County Boundary
- Bakersfield Field Office Boundary
- Carrizo National Monument
- Towns/Cities

- Bureau of Land Management
- Indian Reservation
- Forest Service
- National Park Service
- Bureau of Reclamation
- US Fish and Wildlife Service
- Military
- State Lands
- County / City / Regional
- Unclassified

Bureau of Land Management
Bakersfield Field Office

Bakersfield, California

Figure 1

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SECTION 2
INVENTORY

The inventory stage involves identifying the visual resources of an area and assigning them to inventory classes using the BLM's visual resource inventory process (BLM 2009). The process rates the visual appeal of a tract of land, measuring public concern for scenic quality and determining whether the tract of land is visible from travel routes or observation points. The process is described in detail in BLM Manual H-8410-1—Visual Resource Inventory (BLM 1986). The results of the visual resource inventory become an important component of the BLM's RMP for the area. The RMP establishes how the public lands will be used and allocated for different purposes, and it is developed through public participation and collaboration.

The visual resource inventory process provides BLM managers with a means for determining visual values. The inventory described below is based on the manual's guidelines for assigning visual resource inventory classes to land managed by the BLM in the decision area.

The inventory consists of a scenic quality evaluation, a sensitivity level analysis, and a delineation of distance zones. Based on these three factors, BLM-administered lands are placed into one of four visual resource inventory classes, which represent the relative value of the visual resources. Classes I and II are the most valued, Class III represents a moderate value, and Class IV is of least value. The inventory classes provide the basis for considering visual values in the resource management planning process. Visual resource management classes are established through the RMP process for all BLM-administered lands. During the RMP process, the class boundaries are adjusted as necessary to reflect the resource allocation decisions made in the RMP.

Evaluators conducting the inventory had an understanding of the visual resource inventory system and were familiar with the areas being evaluated. After coordinating with the BKFO, a contractor conducted field work for the inventory from February 19 to 22, 2009. Data and information generated during the inventory are maintained in the BKFO, and relevant maps are provided below.

The visual resource inventory was conducted for areas along the Central Coast, for areas in the San Joaquin Valley (the southern portion of the Central Valley), and for areas in western portions of the southern Sierra Nevada. These areas are in the Central Coast, San Joaquin Valley, and Sierra bioregions. Below is a general description of these bioregions.

Central Coast Bioregion

The Central Coast bioregion extends some 300 miles from just north of Santa Cruz to just south of Santa Barbara, and inland to the floor of the San Joaquin Valley (California Natural Resources Agency 2009a.). The region includes many state parks and other recreational attractions. The geography offers coastal mountain ranges including the Santa Lucia and Santa Ynez, and coastal sand dunes. Vegetation includes chaparral, mixed hardwood forests, and oak woodlands. The Los Padres National Forest covers much of the southern portion of the bioregion. The Salinas and Cuyama rivers feed the bioregion's two major watersheds. The Central Coast bioregion features coastal scenery, mild, seasonally moist, and sometimes foggy climate, farmland, and vineyards.

San Joaquin Valley Bioregion

The San Joaquin Valley bioregion is a broad flat valley ringed by the Diablo and Coast Ranges on the west and the Sierra Nevada foothills on the east (California Natural Resources Agency 2009b). At its northern end, the San Joaquin Valley bioregion borders the southern end of the Sacramento Valley bioregion. Its eastern boundary joins the southern two-thirds of the Sierra bioregion.

The San Joaquin Valley bioregion is hot and dry in summer with long sunny days (California Natural Resources Agency 2009b). Winters are moist and often blanketed with heavy fog. Habitat includes vernal pools, valley sink scrub and saltbush, freshwater marsh, grasslands, arid plains, orchards, and oak savannahs. Much of the historic native grassland, woodland, and wetland in the Central Valley has been converted to farmland. The major river is the San Joaquin, with tributaries of the lower Stanislaus, Tuolumne, Merced, and Fresno Rivers. The southern portion of the bioregion includes the Kings, Kaweah, and Kern Rivers, which drain into closed interior basins. No significant rivers or creeks drain into the valley from the Coast Range.

Sierra Bioregion

The Sierra bioregion is a vast and rugged mountainous area, extending approximately 380 miles along California's eastern side, and is largely contiguous with Nevada (California Natural Resources Agency 2009c). The bioregion extends from the northern edge of the Plumas National Forest south to Tejon Pass in the Tehachapi Mountains, about 30 miles southeast of Bakersfield. The southern half of the Sierra bioregion extends westward from the Nevada state line and the western edge of the BLM's California Desert Conservation Area to the San Joaquin Valley floor.

Named for the Sierra Nevada range it encompasses, the Sierra bioregion includes forests, lakes, and rivers that generate much of the state's water supply (California Natural Resources

Agency 2009c). It features eight national forests, three national parks, numerous state parks, historical sites, wilderness, special recreation and national scenic areas, and mountain peaks.

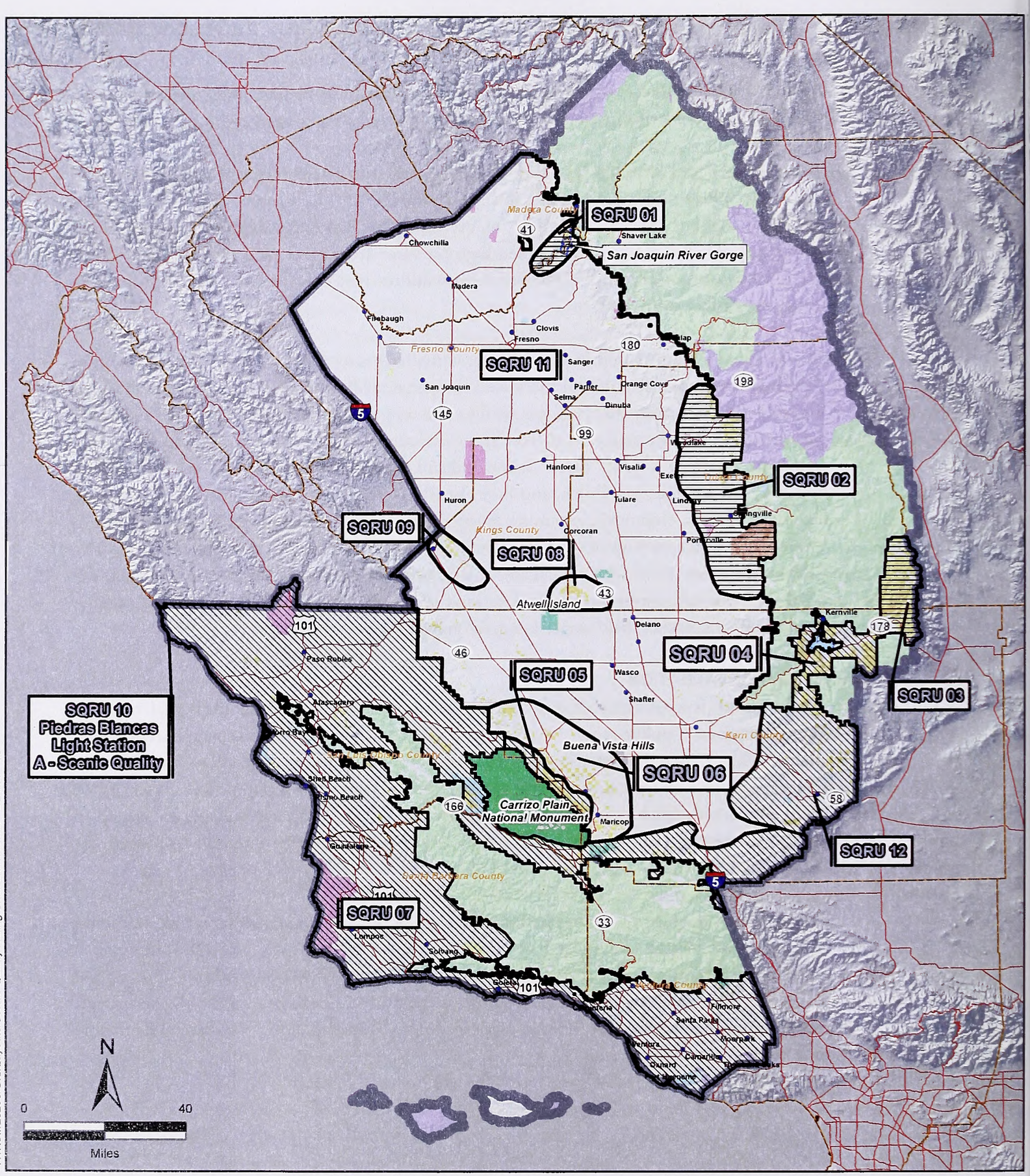
The climate varies with the elevation, offering cold snowy winters and cool summers at higher elevations and rainy winters and mild summers in the foothills (California Natural Resources Agency 2009c). Summers are dry. Mild dry mountain summers accommodate outdoor sports and activities, but when high pressure areas push temperatures upward and gusty winds blow, California is vulnerable to wildfires that consume thousands of acres of brush and timber every year.

The Sierra bioregion is rich in biodiversity, containing over half the plant species found in California and more than 400 of the state's terrestrial wildlife species, or about two-thirds of the birds and mammals and half the reptiles and amphibians (California Natural Resources Agency 2009c). The variety of habitat types include annual grassland, blue oak savannah, chaparral, ponderosa pine, black oak woodland, mixed conifer, red fir, riparian, alpine meadow, Jeffrey pine, sagebrush, and bitter brush. Animals that inhabit the Sierra bioregion include lodgepole chipmunk, mountain beaver, California mountain king snake, black bear, wolverine, California bighorn sheep, Pacific fisher, mule deer, and mountain lion. The California golden trout (the state fish) is native to the southern Sierra. Birds include the northern goshawk, mountain chickadee, pine grosbeak, California spotted owl, mountain quail, willow flycatcher, bald eagle, and great gray owl.

2.1 SCENIC QUALITY EVALUATION

Scenic quality is a measure of the visual appeal of a tract of land. In the visual resource inventory process, public lands are given an A, B, or C rating based on the apparent scenic quality. This is determined using seven key factors: landform, vegetation, water, color, adjacent scenery, scarcity, and cultural modifications. During the rating process, each factor is compared with similar features within the physiographic province (a geographic region in which climate and geology have given rise to an array of landforms different from those of surrounding regions).

An important premise of the evaluation is that all public lands have scenic value, but areas with the most variety and most harmonious composition have the greatest scenic value. Another important concept is that scenic quality is evaluated in relationship to the natural landscape. This does not mean that human-made features within a landscape necessarily detract from the scenic value; human-made features that complement the natural landscape may enhance the scenic value.



Scenic Quality Rating Units
Bureau of Land Management
Bakersfield Field Office

Bakersfield, California

Figure 2

2.1.1 Delineating Scenic Quality Rating Units

The planning area is subdivided into scenic quality rating units (SQRUs) for rating purposes. SQRUs are delineated by like physiographic characteristics; such factors as similar visual patterns, texture, color, and variety; and areas that have similar impacts from human modifications. In addition to examining the landscape during the field visit for like physiographic characteristics, the BLM was also consulted in order to establish appropriate SQRUs.

2.1.2 Evaluating Scenic Quality

Each SQRU was observed from various viewpoints and was evaluated for scenic quality. The ratings were recorded using Scenic Quality Field Inventory (BLM Form 8400-1) and Scenic Quality Rating Summary (BLM Form 8400-5) (Appendix A). The forms in Appendix A provide a description of the specific visual resources found on land managed by the BLM. The scores on the forms reflect the evaluator's overall impression of the land managed by the BLM. The scores were used to assign a scenic rating for each SQRU (Figure 2). The BLM maintains a photographic record of the SQRUs in the BKFO.

2.2 Sensitivity Level Analysis

Sensitivity levels are a measure of public concern for scenic quality. Public lands are assigned high, medium, or low sensitivity levels by analyzing the various indicators of public concern.

2.2.1 Factors Considered

Type of Users

Visual sensitivity will vary with the type of users. Recreational sightseers may be highly sensitive to any changes in visual quality, whereas commuters who regularly pass through the area may not be as sensitive to change.

Amount of Use

Areas seen and used by large numbers of people are potentially more sensitive. Protecting visual values usually becomes more important as the number of viewers increases.

Public Interest

The visual quality of an area may be of concern to local, state, or national groups. Indicators of this concern are usually expressed in such ways as public meetings, letters, newspaper or magazine articles, newsletters, and land use plans. Public controversy created in response to proposed activities that would change the landscape character is also considered.

Adjacent Land Uses

The interrelationship with land uses in adjacent lands can affect the visual sensitivity of an area. For example, an area within the viewshed of a residential area may be very sensitive, whereas an area surrounded by commercially developed lands may not be visually sensitive.

Special Areas

Management objectives for special areas frequently require special consideration for the protection of the visual values. Some examples are wilderness areas, wild and scenic rivers, and areas of critical environmental concern. This does not necessarily mean that these areas are scenic but rather that one of the management objectives may be to preserve the natural landscape setting. The management objectives for these areas may be used as a basis for assigning sensitivity levels.

2.2.2 Delineation of Sensitivity Level Rating Units

There is no standard procedure for delineating sensitivity level rating units (SLRUs). The unit boundaries depend on the factors driving the sensitivity consideration; consequently, a thorough review of the factors described above was completed before delineating the SLRUs. For example, important recreation areas were identified where visual resources may be of concern to the public. Distance zones were considered as well in identifying the SLRU boundaries. In addition to examining sensitivity factors during the field visit, the BLM was also consulted in order to establish appropriate SLRUs.

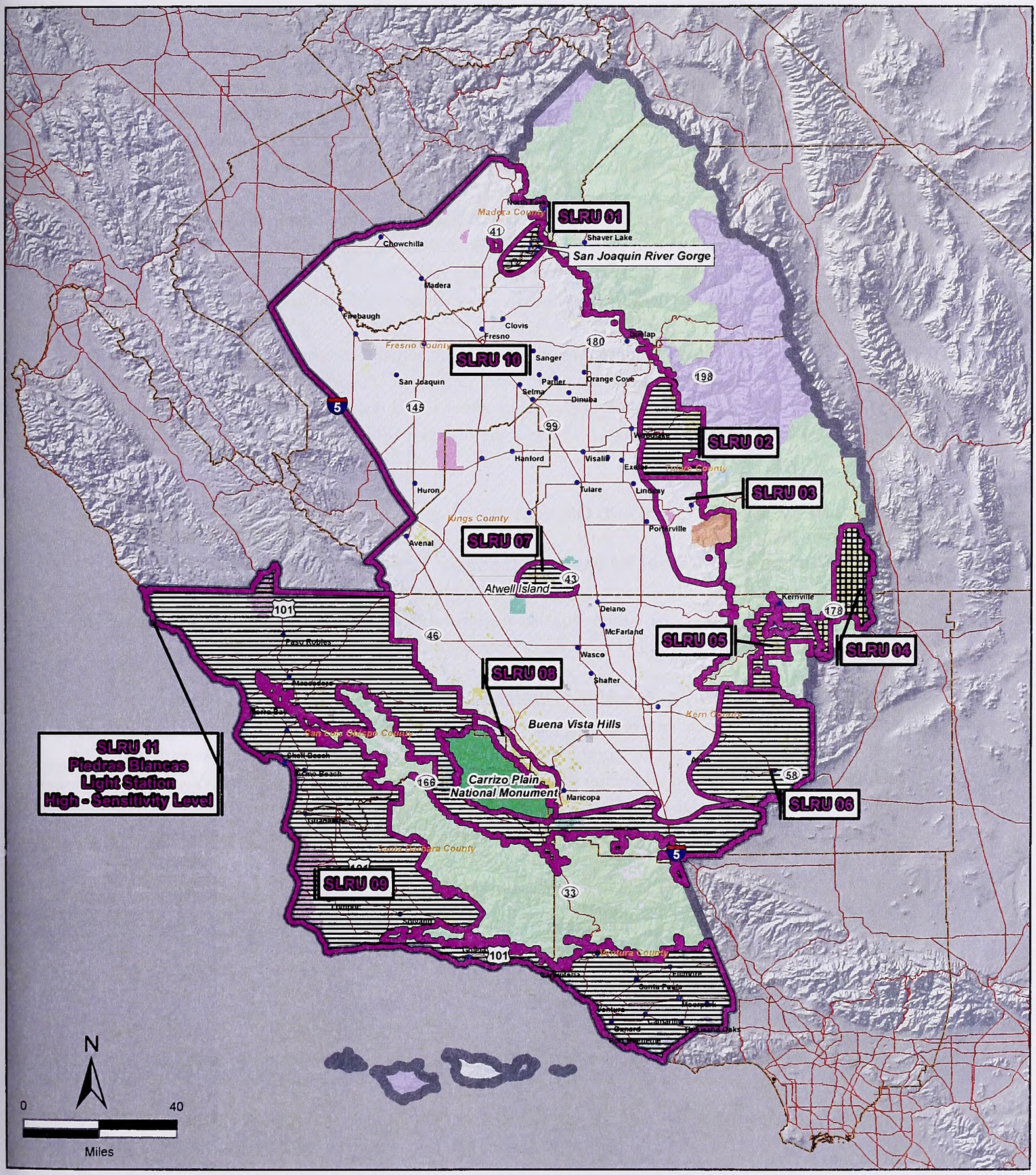
2.2.3 Evaluating Sensitivity Level

Each SLRU was evaluated for sensitivity, and the ratings were recorded using Sensitivity Level Rating Sheet (BLM Form 8400-6) (Appendix B). Appendix B provides a brief rating and description of the sensitivity factors based on field work and consultations with the BLM. Figure 3 shows the sensitivity level ratings for land managed by the BLM based on the sensitivity level ratings in Appendix B.

2.3 DISTANCE ZONES

Landscapes are subdivided into three distance zones based on relative visibility from travel routes or observation points. The three zones are foreground-middle ground, background, and seldom seen.

The foreground-middle ground zone is the area that can be seen from each travel route for a distance of three to five miles where management activities might be viewed in detail. The outer boundary of this distance zone is defined as the point where the texture and form of individual plants are no longer apparent in the landscape. In some areas, atmospheric conditions can reduce visibility and shorten the distance normally covered by each zone. (Where the foreground-middle ground zone from one travel route overlaps the background from another route, only the foreground-middle ground designation is used.)



Sensitivity Level Rating Units
Bureau of Land Management
Bakersfield Field Office
Bakersfield, California

Ker County Boundary
Bakersfield Field Office Boundary
Carrizo National Monument
Sensitivity Level Rating Units (SLRU)
High - Sensitivity Level
Medium - Sensitivity Level
Low - Sensitivity Level
Towns/Cities

Bureau of Land Management
Forest Service
National Park Service
Bureau of Reclamation
US Fish and Wildlife Service
Military
State Lands
County / City / Regional
Unclassified

Figure 3

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The background zone is the remaining area that can be seen from each travel route to approximately 15 miles. Not included are areas in the background that are so distant that the only thing discernible is the form or outline of features. In order to be included within this distance zone, vegetation is visible at least as patterns of light and dark.

The seldom seen zone is areas that are not readily visible within the foreground-middle ground and background zones and areas beyond the background zones. It is associated with portions of the landscape which are generally not visible from key observation points (such as travel routes or viewpoints), or portions which are visible but more than 15 miles away.

Distance zones were determined in the field by actually traveling roadways in the planning area and identifying areas that can and cannot be viewed. Additionally, the BLM was consulted in order to determine distance zones based on relative visibility from travel routes or observation points. Figure 4 shows the distance zones for land managed by the BLM in the decision area.

2.4 Visual Resource Classes and Objectives

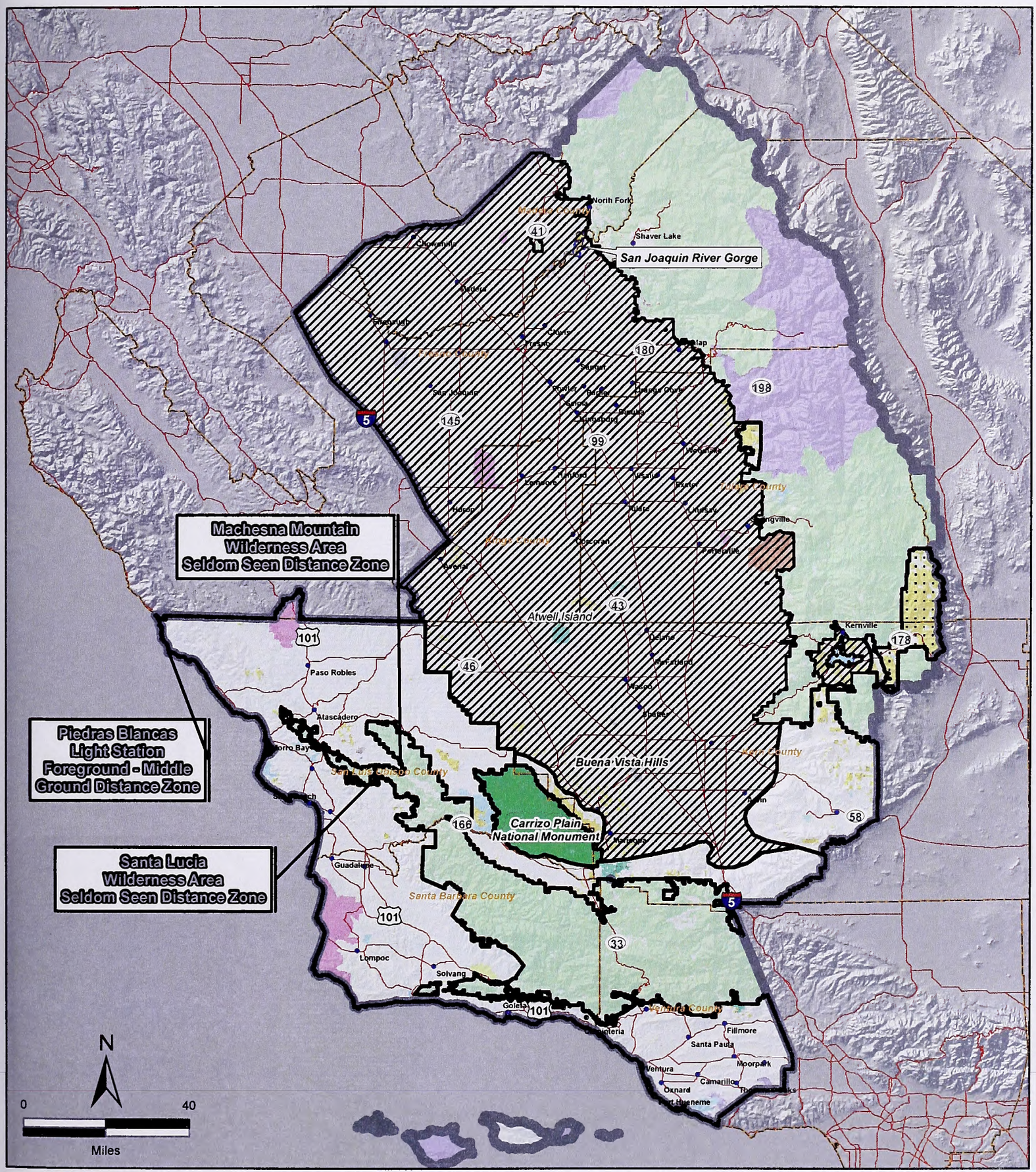
2.4.1 Purposes of Visual Resource Classes

There are four visual resource classes, which are categories assigned to public lands. The classes serve as an inventory tool that portrays the relative value of the visual resources and as a management tool that portrays the visual management objectives.

Visual Resource Inventory Classes

Visual resource inventory classes are assigned in this inventory to land managed by the BLM. This is accomplished by combining the three overlays (for scenic quality, sensitivity levels, and distance zones) and using the guidelines in BLM Handbook H-8410-1, Visual Resource Inventory, in order to create the visual resource inventory class overlay (Figure 5). Based on Figure 5, the following number of acres is found in the visual resource inventory classes:

- Visual resource inventory class I: 131,256 acres;
- Visual resource inventory class II: 42,165 acres;
- Visual resource inventory class III: 33,892 acres; and
- Visual resource inventory class IV: 196,573 acres.



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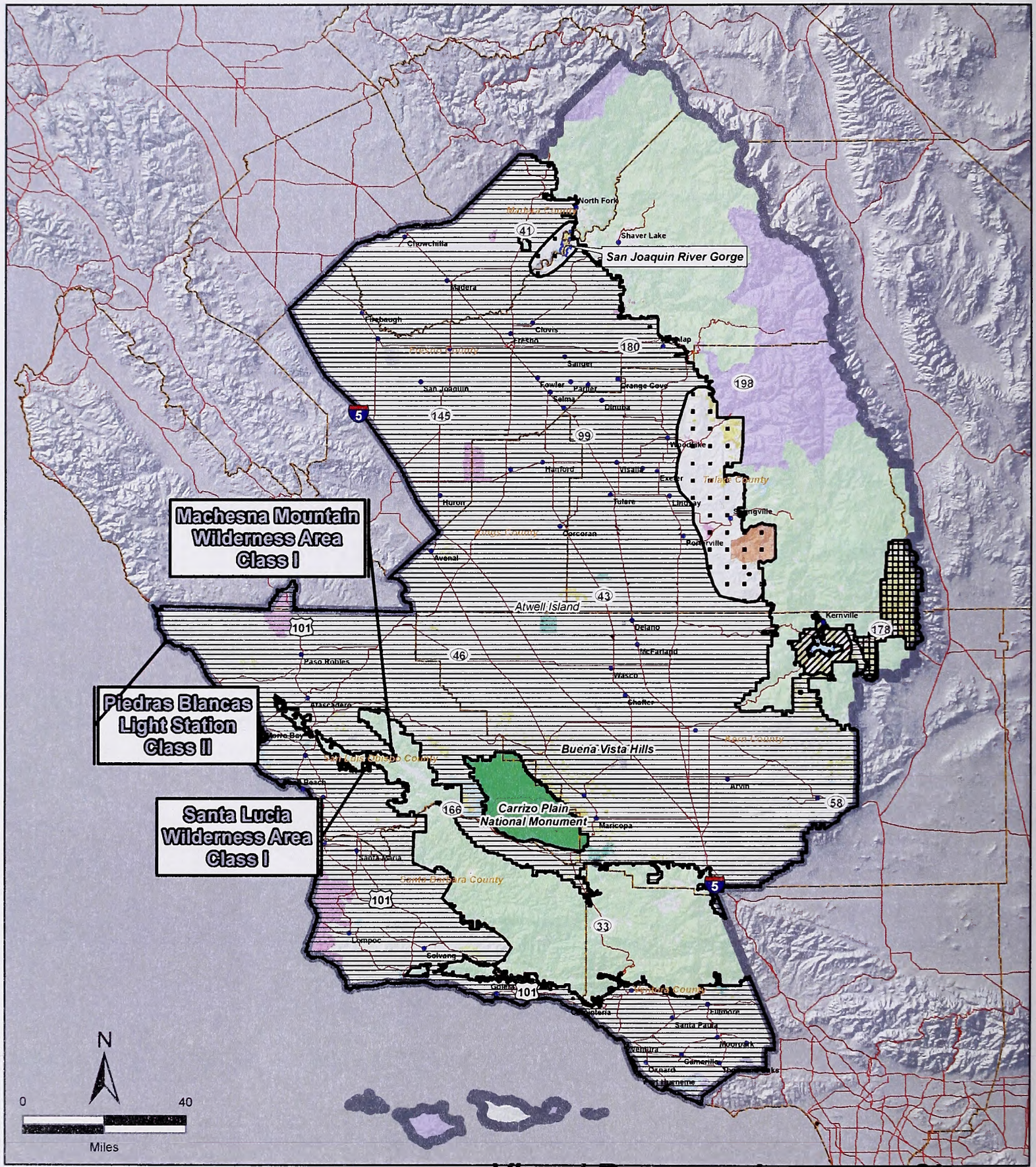
- County Boundary
- Bakersfield Field Office Boundary
- Carrizo National Monument
- Foreground-Middle Ground Distance Zone
- Background Distance Zone
- Seldom Seen Distance Zone

- Towns/Cities
- Bureau of Land Management
- Forest Service
- National Park Service
- Bureau of Reclamation
- US Fish and Wildlife Service
- Military
- State Lands
- County / City / Regional
- Unclassified

Distance Zones
Bureau of Land Management
Bakersfield Field Office

Bakersfield, California

Figure 4



R:/New/23290/GIS/Layouts/Visual Resource Inventory Class map 8.5x11.mxd - 6/05/09 - YE

Kern County Boundary
Bakersfield Field Office Boundary
Carrizo National Monument

Visual Resource Inventory Class

I
II
III
IV

Towns/Cities
Bureau of Land Management
Forest Service
National Park Service
Bureau of Reclamation
US Fish and Wildlife Service
Military
State Lands
County / City / Regional
Unclassified

Visual Resource Inventory Classes
Bureau of Land Management
Bakersfield Field Office

Bakersfield, California

Figure 5

Class I is assigned to those areas where a management decision has been made previously to maintain a natural landscape. This includes wilderness areas where decisions have been made to preserve a natural landscape. Classes II, III, and IV are assigned based on a combination of scenic quality, sensitivity level, and distance zones.

Inventory classes are informational and provide the basis for considering visual values in the RMP process. They do not establish management direction and should not be used as a basis for constraining or limiting surface-disturbing activities.

Visual Resource Management Classes

Visual resource management classes are assigned through RMPs to land managed by the BLM. The assignment of visual management classes is ultimately based on the management decisions made in RMPs, but visual values must be considered throughout the RMP process. During the RMP process, those who propose projects that would disturb the surface must consider the importance of the visual values and the impacts the project may have on these values. Management decisions in the RMP must reflect the value of visual resources. In some instances, the value of the visual resource may be the driving force for some management decisions. A map is developed in each RMP showing the approved visual resource management classes.

2.4.2 Objectives for Visual Resource Classes

The visual resources classes with established objectives are as follows:

- Class I Objective preserves the character of the landscape. It provides for natural ecological changes but does not preclude limited management activity. The level of change to the characteristic landscape should be low and must not attract attention.
- Class II Objective retains the character of the landscape. The level of change to the characteristic landscape should be low. Management activities may be seen but should not attract the attention of the casual observer. Any changes must repeat the basic elements of form, line, color, and texture found in the predominant natural features of the characteristic landscape.
- Class III Objective partially retains the character of the landscape. The level of change to the characteristic landscape should be moderate. Management activities may attract attention but should not dominate the view of the casual observer. Changes should repeat the basic elements found in the predominant natural features of the characteristic landscape.
- Class IV Objectives provide for management activities that require major modifications of the landscape's character. This level of change can be high. The management activities may dominate the view and be the major focus of viewer attention; however, every attempt should be made to minimize their impact through careful location, minimal disturbance, and repetition of the basic elements.

2.4.3 Rehabilitation Areas

Areas in need of rehabilitation from a visual standpoint are identified during the inventory process. The level of rehabilitation will be determined through the RMP process by assigning the VRM class approved for that particular area. No areas are identified by this inventory as needing rehabilitation.

SECTION 3
REFERENCES

BLM (Bureau of Land Management). 1986. Manual H-8410-1—Visual Resource Inventory. Internet Web site: www.blm.gov/nstc/VRM/8410.html.

_____. 2009. VRM System. Internet Web site: www.blm.gov/nstc/VRM/vrmsys.html.

California Natural Resources Agency. 2009a. The Central Coast Bioregion—An Overview. Internet Web site: http://ceres.ca.gov/geo_area/bioregions/Central_Coast/about.html.

_____. 2009b The San Joaquin Valley Bioregion—An Overview. Internet Web site: http://ceres.ca.gov/geo_area/bioregions/San_Joaquin_Valley/about.html.

_____. 2009c. The Sierra Bioregion—An Overview. Internet Web site: http://ceres.ca.gov/geo_area/bioregions/Sierra/about.html.

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Appendix A
Scenic Quality Rating Units

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Form 8400-1
(September 1985)

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT

SCENIC QUALITY FIELD INVENTORY

Date
February 26, 2009

District
Bakersfield Field Office

Resource Area
San Joaquin River Gorge

Scenic quality rating unit
01

1. Evaluators *(names)*
Peter DeWitt
Derek Holmgren

2. LANDSCAPE CHARACTER *(Feature)*

	a. LANDFORM / WATER	b. VEGETATION	c. STRUCTURE *(General)*
FORM	Wide v-shaped gorge topped with rolling hills. River drains gorge bottom past boulders. Rock outcrops along gorge sides. Dramatic relief.	Relatively even and uniform on gorge sides and top. Absent close to river.	Flat and paved road. Two flat and paved parking lots. Boxy hydroelectric facility. Flat dirt trails.
LINE	Diagonal, meandering gorge sides down to narrow river. Slightly diagonal hills atop gorge. Irregular path of gorge. Slightly diagonal and meandering river.	Diagonal along gorge sides and slightly diagonal atop gorge.	Winding road. Horizontal parking lots. Horizontal and vertical hydroelectric facility. Winding trails.
COLOR	Tan, gray, and rust rock outcrop. Dark blue and white water.	Light green to dark green. Seasonal variations.	Gray road and parking lots. Tan hydroelectric facility. Tan trails.
TEXTURE	Moderately smooth gorge sides and top. Smooth rock along gorge bottom. Moderately smooth river.	Moderately smooth.	Smooth road and parking lots. Stiff hydroelectric facility. Smooth trails.

3. Narrative
The SQRU is composed of a gorge drained by the San Joaquin River. Expansive views are available from the top of the gorge and along Smalley Road, which winds down the eastern side of the gorge. Due to the narrow gorge bottom and winding nature of the gorge, opportunities for distant views lessen closer to the gorge bottom. In addition to the road, the other human-made structures are two recreation parking areas near the gorge bottom, a hydroelectric facility near the gorge bottom, and a foot bridge crossing the river. However, the visibility of these structures is limited due to the narrow gorge bottom and winding nature of the gorge. Rock outcrops, grasses, and oak woodlands with a mixture of foothill pines, shrubs, and numerous wildflowers cover the hillsides of the gorge. Although the current dominant colors are shades of green, additional vegetation colors are expected during spring and summer. A few trails cross the area, creating tan lines through green grasses.

4. SCORE *(Circle Appropriate Level)* *

	HIGH	MEDIUM	LOW	EXPLANATION OR RATIONALE
a. Landform	5	3	1	5
b. Vegetation	5	3	1	4
c. Water	5	3	0	3
d. Color	5	3	1	4
e. Adjacent Scenery	5	3	0	3
f. Scarcity	5+	3	1	4
g. Cultural Modification	2	0	-4	0
TOTALS				23

SCENIC QUALITY CLASSIFICATION

- ☒ A — 19 or more
- ☐ B — 12 – 18
- ☐ C — 11 or less

(Instructions on reverse)

Form 8400-1
(September 1985)

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT

SCENIC QUALITY FIELD INVENTORY

Date
February 26, 2009

District
Bakersfield Field Office

Resource Area
Kaweah River

Scenic quality rating unit
02

1. Evaluators *(names)*
Peter DeWitt
Derek Holmgren

2. LANDSCAPE CHARACTER *(Feature)*

	a. LANDFORM / WATER	b. VEGETATION	c. STRUCTURE *(General)*
FORM	Dramatic relief. Rolling hills give way to mountain foothills. Rivers drain valleys. Rock outcrops.	Relatively even and uniform on mountains. Distinct or patchy on hillsides. Relatively even and uniform closer to rivers.	Flat roads.
LINE	Diagonal and meandering hills give way to vertical mountain foothills. Slightly diagonal and meandering rivers.	Diagonal on hillsides and vertical mountains. Slightly diagonal near rivers.	Linear and winding roads.
COLOR	Tan, gray, and rust rock outcrop. Tan terrain. Dark blue and white water. White snow during the winter.	Light green to dark green. Seasonal variations.	Gray roads and tan roads.
TEXTURE	Moderately smooth mountain foothills. Coarse hillsides. Moderately smooth rivers	Moderately smooth on mountains and near rivers. Moderately coarse on hillsides.	Smooth roads.

3. Narrative
The SQRU is primarily composed of BLM land straddling the Kaweah River and forks and tributaries of the river. The Kaweah River drains valleys between rolling hills that give rise to dramatic mountain foothills. The valleys and river meander irregularly. Due to the dramatic relief, views of the river are frequently limited to locations where roads and trails cross it. Rock outcrops, grasses, and oak woodlands, with a mixture of shrubs and wildflowers, cover the hills and mountain foothills. Although the current dominant colors are shades of green, additional vegetation colors are expected during spring and summer. Also, snow covers the higher elevations. Livestock and hiking trails crisscross the area, creating tan lines through green vegetation.

4. SCORE *(Circle Appropriate Level)* *

	HIGH	MEDIUM	LOW	EXPLANATION OR RATIONALE
a. Landform	5	3	1	4
b. Vegetation	5	3	1	4
c. Water	5	3	0	3
d. Color	5	3	1	4
e. Adjacent Scenery	5	3	0	4
f. Scarcity	5+	3	1	4
g. Cultural Modification	2	0	-4	0
TOTALS	23			

SCENIC QUALITY CLASSIFICATION

- ☒ **A** — **19 or more**
- ☐ **B** — **12 – 18**
- ☐ **C** — **11 or less**

(Instructions on reverse)

Form 8400-1
(September 1985)

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT

SCENIC QUALITY FIELD INVENTORY

Date
February 26, 2009

District
Bakersfield Field Office

Resource Area
Sierra Nevada Wilderness Areas

Scenic quality rating unit
03

1. Evaluators *(names)*
Peter DeWitt
Derek Holmgren

2. LANDSCAPE CHARACTER *(Feature)*

	a. LANDFORM / WATER	b. VEGETATION	c. STRUCTURE *(General)*
FORM	Dramatic relief. Valleys and mountain foothills give way to mountains drained by creeks. Rock outcrops on mountain sides. Exposed rock promontories. High mountain meadows.	Absent below mountain foothills, on top of some mountains, rock outcrops, and promontories. Somewhat even and uniform on mountains and foothills. Sparse and clustered around creeks in valleys.	Flat dirt road and trails.
LINE	Diagonal mountain foothills. Vertical and jagged mountains. Diagonal and meandering creeks. Flat meadows and valleys.	Vertical on mountains. Diagonal on mountains/foothills. Flat in meadows and valleys.	Horizontal, diagonal, and winding road and trails.
COLOR	Tan and warm tan terrain and rock. Dark blue water. White snow during the winter.	Light green to dark green. Seasonal variations though.	Tan road and trails.
TEXTURE	Smooth to jagged rock.	Moderately coarse and rough on mountains/foothills. Stippled at lower elevations.	Smooth road and trails.

3. Narrative
The SQRU is composed of contiguous wilderness areas in the transition zone between the Mojave Desert to the east and the Sierra Nevada. It is composed of a range of terrains where valleys, canyons, alluvial fans, and steep hills lead into rugged granite mountains. The valleys are diversified; some are relatively open and flat, while others are surrounded by steep and rolling mountains. Deep, winding, open, and expansive canyons contain springs with extensive riparian vegetation. Mountain foothills quickly give rise to mountains with jagged peaks, rounded tops, and promontories of exposed rock. The western portion of the region contains the steepest mountains, with both narrow and open canyons. The highest point is Owens Peak at 8,453 feet; other major peaks include Chimney Peak (7,994 feet), Bear Peak (8,228 feet), Sawtooth Peak (8,000 feet), Morris Peak (7,215), and Pinyon Peak (6,805 feet). Narrow meandering creeks drain the mountains and widen as they reach the valleys below the mountain foothills. Higher rocky mountain terrains are dotted with pinyon pine and juniper trees; intervening slopes are brushy, with large granite rock outcroppings. Lower elevations, canyons, and valleys support stands of Joshua trees, big sage, creosote bush, burro bush, shadescale, pinyon pine, juniper, canyon oak, and grey pine.

4. SCORE *(Circle Appropriate Level)* *

	HIGH	MEDIUM	LOW	EXPLANATION OR RATIONALE
a. Landform	5	3	1	5
b. Vegetation	5	3	1	4
c. Water	5	3	0	4
d. Color	5	3	1	4
e. Adjacent Scenery	5	3	0	5
f. Scarcity	5+	3	1	4
g. Cultural Modification	2	0	-4	1
TOTALS	27			

SCENIC QUALITY CLASSIFICATION

- ☒ A — 19 or more
- ☐ B — 12 – 18
- ☐ C — 11 or less

(Instructions on reverse)

Form 8400-1
(September 1985)

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT

SCENIC QUALITY FIELD INVENTORY

Date
February 26, 2009

District
Bakersfield Field Office

Resource Area
Lake Isabella and Lowland Hills

Scenic quality rating unit
04

1. Evaluators *(names)*
Peter DeWitt
Derek Holmgren

2. LANDSCAPE CHARACTER *(Feature)*

	a. LANDFORM / WATER	b. VEGETATION	c. STRUCTURE *(General)*
FORM	Undulating and winding hills. Narrow valleys. Rounded and pointed hilltops.	Relatively even. Rounded shrubs and trees. Short grasses.	Sparse vertical fence and utility posts and discrete wires.
LINE	Diagonal hillsides. Wavy ridgelines.	Diagonal on hillsides.	Horizontal and diagonal wires and vertical posts.
COLOR	Tan terrain and reddish tan/light brown. Some snow.	Light green to dark green. Seasonal variations.	Dark gray wires and brown posts.
TEXTURE	Relatively smooth.	Relatively smooth.	Stippled.

3. Narrative
The SRQU is composed of a patchwork of BLM land on hills at the southern end of the San Joaquin Valley and around Lake Isabella. The rolling hills vary in size, height, and steepness. The hilltops range from smooth and rounded to more rough and pointed from exposed rock. Boulders are scattered across some hillsides and are clustered at the bottom of some hills. Rounded shrubs and trees form a relatively even cover over the landscape, except where exposed rock and boulders are found. Low brush and grasses evenly cover the landscape. Although the current dominant colors are shades of green, additional vegetation colors are expected,during spring and summer.

4. SCORE *(Circle Appropriate Level)* *

	HIGH	MEDIUM	LOW	EXPLANATION OR RATIONALE
a. Landform	5	3	1	3
b. Vegetation	5	3	1	3
c. Water	5	3	0	1
d. Color	5	3	1	3
e. Adjacent Scenery	5	3	0	4
f. Scarcity	5+	3	1	3
g. Cultural Modification	2	0	-4	0
TOTALS	17			

SCENIC QUALITY CLASSIFICATION

- ☐ A — 19 or more
- ☒ B — 12 – 18
- ☐ C — 11 or less

(Instructions on reverse)

Form 8400-1
(September 1985)

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT

SCENIC QUALITY FIELD INVENTORY

Date
February 26, 2009

District
Bakersfield Field Office

Resource Area
Temblor

Scenic quality rating unit
05

1. Evaluators *(names)*
Peter DeWitt
Derek Holmgren

2. LANDSCAPE CHARACTER *(Feature)*

	a. LANDFORM / WATER	b. VEGETATION	c. STRUCTURE *(General)*
FORM	Undulating and rounded hills.	Short and rounded dispersed brush and scrub. Uniform and even grass where disturbances are absent.	Flat roads. Sparse vertical fence and utility posts with discrete wires.
LINE	Diagonal hills.	Flat on valley and diagonal on hills.	Winding and linear roads. Vertical posts and horizontal and diagonal wires.
COLOR	Tan terrain.	Light green to dark green. Seasonal variations.	Tan roads. Dark gray wires and brown posts.
TEXTURE	Relatively smooth.	Coarse.	Smooth roads. Stippled posts.

3. Narrative
The SRQU is composed of a patchwork BLM land in Temblor Range, which is characterized by winding and rolling hills covered by green grasses. Seasonal variation in vegetation color is expected. The hills are crossed by utility poles and fences. Dirt roads follow the contours of the hillsides and hilltops. Occasional dilapidated ranches.

4. SCORE *(Circle Appropriate Level)* *

	HIGH	MEDIUM	LOW	EXPLANATION OR RATIONALE
a. Landform	5	3	1	3
b. Vegetation	5	3	1	2
c. Water	5	3	0	1
d. Color	5	3	1	2
e. Adjacent Scenery	5	3	0	3
f. Scarcity	5+	3	1	2
g. Cultural Modification	2	0	-4	0
TOTALS	13			

SCENIC QUALITY CLASSIFICATION

- ☐ A — 19 or more
- ☒ B — 12 – 18
- ☐ C — 11 or less

(Instructions on reverse)

Form 8400-1
(September 1985)

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT

SCENIC QUALITY FIELD INVENTORY

Date
February 26, 2009

District
Bakersfield Field Office

Resource Area
Antelope to Buena Vista

Scenic quality rating unit
06

1. Evaluators *(names)*
Peter DeWitt
Derek Holmgren

2. LANDSCAPE CHARACTER *(Feature)*

	a. LANDFORM / WATER	b. VEGETATION	c. STRUCTURE *(General)*
FORM	Flat valley.	Short and rounded dispersed brush and scrub. Uniform and even grass where disturbances are absent.	Uniform oil pumps connected by supporting apparatus.
LINE	Horizontal valley.	Flat on valley.	Vertical, horizontal, angular, and repetitive structures and apparatus.
COLOR	Tan terrain.	Light green to dark green. Seasonal variations.	Black, light gray, rust, red, and yellow structures and apparatus.
TEXTURE	Smooth.	Moderately coarse.	Bumpy structures and apparatus.

3. Narrative
The SQRU contains scattered BLM land in Buena Vista Hills, Buena Vista Valley, and Antelope Valley, which is characterized by flat terrain and the foot of Temblor Range. Uniform and even grasses and sparse shrubs and scrubs cover the ground. Seasonal variation in vegetation color is expected. Sparse utility poles cross the area.

In Buena Vista Hills and Buena Vista Valley, dirt roads and utility posts crisscross the area. A patchwork of vegetation exists between energy developments. In most cases, oil pumps connected to supporting apparatuses are densely clustered in defined areas and create a repetitive aesthetic.

4. SCORE *(Circle Appropriate Level)* *

	HIGH	MEDIUM	LOW	EXPLANATION OR RATIONALE
a. Landform	5	3	1	1
b. Vegetation	5	3	1	1
c. Water	5	3	0	0
d. Color	5	3	1	1
e. Adjacent Scenery	5	3	0	0
f. Scarcity	5+	3	1	1
g. Cultural Modification	2	0	-4	-2
TOTALS				2

SCENIC QUALITY CLASSIFICATION

- ☐ A — 19 or more
- ☐ B — 12 – 18
- ☒ C — 11 or less

(Instructions on reverse)

Form 8400-1
(September 1985)

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT

SCENIC QUALITY FIELD INVENTORY

Date
February 26, 2009

District
Bakersfield Field Office

Resource Area
San Luis Obispo/Santa Barbara/Ventura

Scenic quality rating unit
07

1. Evaluators *(names)*
Peter DeWitt
Derek Holmgren

2. LANDSCAPE CHARACTER *(Feature)*

	a. LANDFORM / WATER	b. VEGETATION	c. STRUCTURE *(General)*
FORM	Rolling and rounded hills and expansive hillsides.	Uniform and even grasses. Rounded and clustered trees with butt edge.	N/A
LINE	Diagonal hills and hillsides.	Diagonal on hills and hillsides.	N/A
COLOR	Tan terrain.	Light green to dark green and shades of brown. Seasonal variations.	N/A
TEXTURE	Relatively smooth.	Relatively smooth.	N/A

3. Narrative
This SQRU contains scattered BLM land in San Luis Obispo, Santa Barbara, and Ventura Counties. Typically, winding and rolling hills with rounded hilltops lead down to flatter terrain. Trees occupy higher elevations, and grasses occupy the lower hillsides. Although the current dominant colors are shades of green and brown, additional vegetation colors are expected during spring and summer.

4. SCORE *(Circle Appropriate Level)* *

	HIGH	MEDIUM	LOW	EXPLANATION OR RATIONALE
a. Landform	5	3	1	2
b. Vegetation	5	3	1	2
c. Water	5	3	0	1
d. Color	5	3	1	2
e. Adjacent Scenery	5	3	0	3
f. Scarcity	5+	3	1	3
g. Cultural Modification	2	0	-4	0
TOTALS	13			

SCENIC QUALITY CLASSIFICATION

- ☐ A — 19 or more
- ☒ B — 12 – 18
- ☐ C — 11 or less

(Instructions on reverse)

Form 8400-1
(September 1985)

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT

SCENIC QUALITY FIELD INVENTORY

Date
February 26, 2009

District
Bakersfield Field Office

Resource Area
Atwell Island

Scenic quality rating unit
08

1. Evaluators *(names)*
Peter DeWitt
Derek Holmgren

2. LANDSCAPE CHARACTER *(Feature)*

	a. LANDFORM / WATER	b. VEGETATION	c. STRUCTURE *(General)*
FORM	Flat terrain and canal.	Uniform, even, and short	Sparse vertical utility posts and discrete wires.
LINE	Horizontal terrain. Linear canal.	Horizontal.	Horizontal wires and vertical posts.
COLOR	Medium brown.	Green.	Dark gray wires and brown posts.
TEXTURE	Smooth.	Smooth.	Stippled.

3. Narrative
This SQRU is in the San Joaquin Valley. An irrigation canal is next to the BLM land, which is flat and uniformly covered with vegetation. Although the current dominant color is green, vegetation color and cover are expected to vary during the year. Adjacent land is similar to the BLM land.

4. SCORE *(Circle Appropriate Level)* *

	HIGH	MEDIUM	LOW	EXPLANATION OR RATIONALE
a. Landform	5	3	1	1
b. Vegetation	5	3	1	1
c. Water	5	3	0	1
d. Color	5	3	1	1
e. Adjacent Scenery	5	3	0	1
f. Scarcity	5+	3	1	1
g. Cultural Modification	2	0	-4	-1
TOTALS	5			

SCENIC QUALITY CLASSIFICATION

- ☐ A — 19 or more
- ☐ B — 12 – 18
- ☒ C — 11 or less

(Instructions on reverse)

Form 8400-1
(September 1985)

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT

SCENIC QUALITY FIELD INVENTORY

Date
February 26, 2009

District
Bakersfield Field Office

Resource Area
Kettleman Hills

Scenic quality rating unit
09

1. Evaluators *(names)*
Peter DeWitt
Derek Holmgren

2. LANDSCAPE CHARACTER *(Feature)*

	a. LANDFORM / WATER	b. VEGETATION	c. STRUCTURE *(General)*
FORM	Rolling and rounded hills.	Uniform and even grass. Occasional scrub.	Sparse vertical utility posts and discrete wires. Flat roads. Distinct pipelines. Intermittent energy sites.
LINE	Diagonal.	Diagonal.	Horizontal and diagonal wires and vertical posts. Winding and linear roads. Horizontal and diagonal pipelines. Vertical, horizontal, and angular structures.
COLOR	Tan terrain.	Light green to dark green. Seasonal variations though.	Dark gray wires and brown posts. Tan roads. Brown pipelines. Tan and gray structures.
TEXTURE	Smooth.	Relatively smooth.	Moderately coarse.

3. Narrative
The SQRU is in Kettleman Hills. Typically, the area is covered with rolling and rounded hills, which are evenly covered with short grass, as well as sporadic scrub. Although the current dominant colors are shades of green, different vegetation colors are expected during spring and summer. Roads and pipeline on the ground snake through the area between relatively small energy sites. The hills are crossed by utility poles and fences.

4. SCORE *(Circle Appropriate Level)* *

	HIGH	MEDIUM	LOW	EXPLANATION OR RATIONALE
a. Landform	5	3	1	2
b. Vegetation	5	3	1	3
c. Water	5	3	0	0
d. Color	5	3	1	1
e. Adjacent Scenery	5	3	0	2
f. Scarcity	5+	3	1	1
g. Cultural Modification	2	0	-4	-2
TOTALS				7

SCENIC QUALITY CLASSIFICATION

- ☐ A — 19 or more
- ☐ B — 12 – 18
- ☒ C — 11 or less

(Instructions on reverse)

Form 8400-1
(September 1985)

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT

SCENIC QUALITY FIELD INVENTORY

Date
February 26, 2009

District
Bakersfield Field Office

Resource Area
Piedras Blancas Light Station

Scenic quality rating unit
10

1. Evaluators *(names)*
Peter DeWitt
Derek Holmgren

2. LANDSCAPE CHARACTER *(Feature)*

	a. LANDFORM / WATER	b. VEGETATION	c. STRUCTURE *(General)*
FORM	Flat.	Distinct and rounded trees. Short grass and scrub.	Flat road. Distinct buildings.
LINE	Horizontal.	Mostly horizontal.	Linear road. Vertical, horizontal, angular, and repetitive structures.
COLOR	Tan to medium brown terrain.	Light green to dark green. Seasonal variations.	Gray road. White, tan, and adobe structures.
TEXTURE	Relatively smooth.	Moderately smooth.	Bumpy.

3. Narrative
The SQRU is along the coast in northern San Luis Obispo County. The light station is on a rocky and gently sloping marine terrace. At the eastern edge of the property, the elevation is about 60 feet, and the western and southern sides of the property are at sea level. The vegetation at Piedras Blancas can be characterized as coastal scrub or coastal bluff scrub, heavily impacted by past human activities. But ongoing efforts to control nonnative species are now restoring native species. The current vegetation appears to be early successional. Given time, mature coastal scrub should develop. Although the current dominant colors are shades of green, additional vegetation colors are expected during spring and summer. Unique fauna are found at and around Piedras Blancas, which offers a bounty of natural vistas and photo opportunities. The Outer Islet, Piedra Blanca #1 and #2, and La Cruz Rock to the north are dramatic geological features that dominate the seascape to the south, west, and north of the point. Clouds and fog can change the scenic experience in just a few minutes as they rush in across the point.

4. SCORE *(Circle Appropriate Level)* *

	HIGH	MEDIUM	LOW	EXPLANATION OR RATIONALE
a. Landform	5	3	1	4
b. Vegetation	5	3	1	3
c. Water	5	3	0	1
d. Color	5	3	1	2
e. Adjacent Scenery	5	3	0	5
f. Scarcity	5+	3	1	4
g. Cultural Modification	2	0	-4	0
TOTALS	19			

SCENIC QUALITY CLASSIFICATION

- ☒ A — 19 or more
- ☐ B — 12 – 18
- ☐ C — 11 or less

(Instructions on reverse)

Form 8400-1
(September 1985)

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT

SCENIC QUALITY FIELD INVENTORY

Date
February 26, 2009

District
Bakersfield Field Office

Resource Area
San Joaquin Valley

Scenic quality rating unit
11

1. Evaluators *(names)*
Peter DeWitt
Derek Holmgren

2. LANDSCAPE CHARACTER *(Feature)*

	a. LANDFORM / WATER	b. VEGETATION	c. STRUCTURE *(General)*
FORM	Relatively flat and open.	Moderately even. Short and round. Scrub and chaparral.	Flat dirt roads. Sparse vertical fence and utility posts with discrete wires. Occasional oil pumps connected by supporting apparatus.
LINE	Relatively horizontal.	Relatively horizontal.	Linear and horizontal roads. Vertical posts and horizontal and diagonal wires. Vertical, horizontal, and angular structures and apparatus.
COLOR	Tan terrain.	Seasonal variations.	Tan roads. Dark gray wires and brown posts. Black, light gray, rust, red, and yellow structures and apparatus.
TEXTURE	Relatively smooth.	Relatively smooth.	Smooth roads. Stippled posts. Bumpy structures and apparatus.

3. Narrative
The SQRU is a general collection of BLM lands in San Joaquin Valley and outside of other SQRUs. These relatively isolated parcels are typically flat and moderately covered with grasses and scrub. Dirt roads follow well defined routes. Utility infrastructure may cross the land, and there may be three to four oil pumps.

4. SCORE *(Circle Appropriate Level)* *

	HIGH	MEDIUM	LOW	EXPLANATION OR RATIONALE
a. Landform	5	3	1	2
b. Vegetation	5	3	1	2
c. Water	5	3	0	0
d. Color	5	3	1	1
e. Adjacent Scenery	5	3	0	2
f. Scarcity	5+	3	1	1
g. Cultural Modification	2	0	-4	0
TOTALS				8

SCENIC QUALITY CLASSIFICATION

- ☐ A — 19 or more
- ☐ B — 12 – 18
- ☒ C — 11 or less

(Instructions on reverse)

Form 8400-1
(September 1985)

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT

SCENIC QUALITY FIELD INVENTORY

Date	February 26, 2009
District	Bakersfield Field Office
Resource Area	Tehachapi
Scenic quality rating unit	12

1. Evaluators *(names)*
Peter DeWitt
Derek Holmgren

2. LANDSCAPE CHARACTER *(Feature)*

	a. LANDFORM / WATER	b. VEGETATION	c. STRUCTURE *(General)*
FORM	Undulating and rounded hills.	Short and rounded dispersed brush and scrub. Uniform and even grass where disturbances are absent.	Flat roads. Sparse vertical fence and utility posts with discrete wires.
LINE	Diagonal hills.	Flat on valley and diagonal on hills.	Winding and linear roads. Vertical posts and horizontal and diagonal wires.
COLOR	Tan terrain.	Light green to dark green. Seasonal variations.	Tan roads. Dark gray wires and brown posts.
TEXTURE	Relatively smooth.	Coarse.	Smooth roads. Stippled posts.

3. Narrative
The SRQU is composed of a patchwork of BLM land. The area is characterized by winding and rolling hills covered by green grasses. Seasonal variation in vegetation color is expected. The hills are crossed by utility poles and fences. Dirt roads follow the contours of the hillsides and hilltops.

4. SCORE *(Circle Appropriate Level)* *

	HIGH	MEDIUM	LOW	EXPLANATION OR RATIONALE
a. Landform	5	3	1	3
b. Vegetation	5	3	1	2
c. Water	5	3	0	1
d. Color	5	3	1	2
e. Adjacent Scenery	5	3	0	3
f. Scarcity	5+	3	1	2
g. Cultural Modification	2	0	-4	0
TOTALS	13			

SCENIC QUALITY CLASSIFICATION

- ☐ A — 19 or more
- ☒ B — 12 – 18
- ☐ C — 11 or less

(Instructions on reverse)

Form 8400-5
(May 1984)

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT

SCENIC QUALITY RATING SUMMARY

Date
February 26, 2009

District
Bakersfield Field Office

Resource Area
Field Office

1. Evaluators *(names)*
Peter DeWitt
Derek Holmgren

SCENIC QUALITY RATING UNITS (1)	Landform (2)	Vegetation (3)	Water (4)	Color (5)	Adjacent Scenery (6)	Scarcity (7)	Cultural Modification (8)	Total Score (9)	Scenic Quality Rating (10)	EXPLANATION (11)
01	5	4	3	4	3	4	0	23	A	01: Unit has varying topography, vegetation, and a river. The gorge offers dramatic views. There is minimal disturbance.
02	4	4	3	4	4	4	0	23	A	02: Unit has varying topography and vegetation. Kaweah River and tributaries and Case Mountain offer diverse views. There is minimal disturbance.
03	5	4	4	4	5	4	1	27	A	03: Unit has varying topography, vegetation, and sources of water. Little disturbance exists in the area. Mountains offer distant views.
04	3	3	1	3	4	3	0	17	B	04: Unit's Lake Isabella and Kern River Canyon offer diverse scenery. Surrounding land offers seasonal scenery.
05	3	2	1	2	3	2	0	13	B	05: Unit's indistinguishable rolling hills offer views of valley.
06	1	1	0	1	0	1	-2	2	C	06: Unit has highly developed oil fields.
07	2	2	1	2	3	3	0	13	B	07: Unit has small isolated parcels near Forest Service wilderness.
08	1	1	1	1	1	1	-1	5	C	08: Unit's flat open land is surrounded by agriculture land.
09	2	3	0	1	2	1	-2	7	C	09: Unit has a mixture of public and private parcels in Kettleman Hills, with energy development infrastructure.
10	4	3	1	2	5	4	0	19	A	010: Unit's historic lighthouse is on coastal point surrounded by the ocean.
11	2	2	0	1	2	1	0	8	C	011: Unit has scattered parcels next to agriculture and ranch land in broad valley.
12	3	2	1	2	3	2	0	13	B	012: Unit's rolling hills offer diverse views.

INSTRUCTIONS

Form is used in conjunction with the Scenic Quality Inventory and Evaluation Chart.

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Appendix B
Sensitivity Level Rating Units

Form 8400-6
(September 1985)

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT

SENSITIVITY LEVEL RATING SHEET

Date
February 26, 2009

District
Bakersfield Field Office

Resource Area
Field Office

1. Evaluators *(names)*
Peter DeWitt
Derek Holmgren

SENSITIVE LEVEL RATING UNIT (1)	Type of User (2)	Amount of Use (3)	Public Interest (4)	Adjacent Land Uses (5)	Special Areas (6)	Other Factors (7)	Overall Rating (8)	EXPLANATION (9)
01	M	H	M	L	H		M	01: Unit is frequently used for recreation.
02	M	M	H	H	M		M	02: Unit is frequently used for recreation and is a buffer for Forest Service national parks.
03	L	L	L	H	L		L	03: Unit is a buffer for Forest Service land.
04	H	L	M	H	H		H	04: Unit is used for recreation and is a buffer for Forest Service land. There is public concern for keeping the wilderness areas natural.
05	M	M	M	M	M		M	05: Unit's lake and rivers are frequently used for recreation.
06	H	L	M	L	L		M	06: Those living in communities in the unit are concerned over land use.
07	H	L	M	L	M		M	07: Unit has high-profile Atwell Island Project.
08	L	M	M	L	L		L	08: Unit has dispersed ranches and few visitors.
09	M	L	L	M-H	L-M		M	09: Unit is near Forest Service wilderness and areas of critical environmental concern.
10	L	L	L	L	L		L	10: Unit has small isolated parcels next to agriculture and ranch lands.
11	H	M-H	H	H	H		H	11: Unit contains high-profile lighthouse.

Note: L = Low; M = Moderate; and H = High

APPENDIX D

Appendix D – Wildland Fire Ecology and Management
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Appendix D – Wildland Fire Ecology and Management D-1

Table D-1
Acres by Fire Regime Condition Class (FRCC) for each Fire Management Unit

	FRCC Assigned			FRCC not Assigned				
FMU Name	FRCC 1	FRCC 2	FRCC 3	Sparsely Vegetated	Barren	Agriculture	Urban	Grand Total
Carrizo Plain	245	4,671	1,531		342			6,789
Coastal	3,961	9,266	6,456		118	4		19,806
Domelands	18,257	6,218	343	7,228	1,265		2	33,313
Foothill	7,180	235	486					7,900
Hopper Mtn.	1,544	599	327		26	29	1	2,525
Isabella	37,658	17,925	123	407	1,344	41	47	57,545
Kennedy Meadows	19,962	3,290	77	7,233	18	6	11	30,598
Lorraine	12,176	8,169	259	186	85	10	3	20,887
Santa Margarita	3,265	2,123	1,895		1	1	0	7,285
South Fork	13,082	1,208	16	1,689	1,107	84	51	17,236
South Sierra	28,695	11,074	156	7,257	1,377	35	1	48,595
Three Rivers	16,305	3,467	16,294	9	5		1	36,081
Valley	3,534	29,674	47,532	1	20,430	10,736	49	111,956
Grand Total	165,863	97,918	75,496	24,011	26,118	10,946	167	400,518

Table D-2
Percent of Area by Fire Regime Condition Class for each Fire Management Unit

FMU Name	FRCC 1	FRCC 2	FRCC 3	Sparsely Vegetated	Barren	Agriculture	Urban
Carrizo Plain	4%	69%	23%		5%		
Coastal	20%	47%	33%		1%		
Domelands	55%	19%	1%	22%	4%		
Foothill	91%	3%	6%				
Hopper Mtn.	61%	24%	13%		1%	1%	
Isabella	65%	31%		1%	2%		
Kennedy Meadows	65%	11%		24%			
Lorraine	58%	39%	1%	1%			
Santa Margarita	45%	29%	26%				
South Fork	76%	7%		10%	6%		
South Sierra	59%	23%		15%	3%		
Three Rivers	45%	10%	45%				
Valley	3%	27%	42%	0%	18%	10%	
Grand Total	41%	24%	19%	6%	7%	3%	< 1%

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APPENDIX E

APPENDIX E – COMPREHENSIVE TRAIL AND TRAVEL MANAGEMENT
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E.1 INTRODUCTION

Comprehensive travel management is the proactive management of public access, natural resources, and regulatory needs to ensure that all aspects of road and trail system planning and management are considered. This includes route planning, inventory and evaluation, innovative partnerships, user education, mapping, monitoring, signing, field presence and law enforcement. Comprehensive travel management planning should address all resource use aspects, such as recreational, traditional, casual, agricultural, commercial, and educational, and accompanying modes and conditions of travel on public lands, not just motorized or off-highway vehicle (OHV) activities (US Department of the Interior, Bureau of Land Management [BLM] Land Use Planning Handbook 1601-1, Appendix C [BLM 2005]).

Throughout the BLM's planning process, scoping has consistently demonstrated comprehensive travel management as a major issue to be addressed in land use plans. Increased demand for access to public lands, combined with the research on the impacts of roads on resources and resource uses, has increased the need for a well designed and managed transportation system.

Though historically focused on motor vehicle use, comprehensive travel management encompasses all forms of transportation including travel by mechanized vehicles such as bicycles, as well as the numerous forms of motorized vehicles from two-wheeled (motorcycles) and four-wheeled such as all-terrain vehicles (ATVs) to cars and trucks.

The term off-road vehicle is an outdated term that has the same meaning as OHV, which is currently in use. Off-road vehicle is defined in 43 CFR 8340.0-5(a) as "any motorized vehicle capable of, or designated for, travel on or immediately over land, water, or other natural terrain." This definition has been updated using the term "OHV" in the *National Management Strategy for Motorized Off-Highway Vehicle Use on Public Lands*, finalized by the BLM in January 2001 (BLM 2001). The intent of the National Strategy was to update and revitalize management of off-highway motor vehicle use on BLM-administered lands. The National Strategy provides guidance and recommendations to accomplish that purpose.

The Bakersfield Field Office (BKFO) has only recently completed an RMP decision-area-wide route inventory. The 1997 Caliente RMP did not include a route inventory and limited travel to existing routes throughout the majority of the decision area. It qualified existing routes as those appearing on BLM Surface Management Maps, aerial photographs and USGS topographical maps at the time the plan was completed. This policy was largely ineffective in addressing the proliferation of user-created routes and mitigation of environmental and social impacts.

In 2009, the BLM completed an RMP decision-area-wide inventory that combined existing route information with updated inventories and new data. The completed "2009 Digital Inventory" compared historic maps and GIS files, previously designated routes, route information from state and local governments and current on-the-ground route inventories (completed as recently as December 2008) with recent aerial photographs. It also relied upon public input gathered at

workshops and a public comment period in early 2009, described below. The process of development and content of the Draft BKFO Travel Plan is described in this document.

E.1.1 How to Read/Use this Document

This document addresses the process by which the BKFO Interdisciplinary Team has developed the draft Resource Management Plan (RMP)/Environmental Impact Statement (EIS) alternatives for motorized, mechanized, and non-motorized uses throughout the planning area. This document takes the reader through the process of travel planning within the BKFO.

- The Land Use Planning decisions of the travel plan define the areas within the BKFO that are designated Open, Limited, or Closed, to OHV use.
- The Implementation decisions of the travel plan include the designation of routes throughout the decision area. Other implementation actions include signage, maps, public information, kiosks, monitoring, and working with partners.

The analysis of impacts for the travel plan will be completed within the RMP/EIS. Definitions commonly used in addressing OHV use are found in Attachment A.

E.2 Summary

Land Use Planning Decisions – Code of Federal Regulations (CFR) require BLM to designate all public lands as Open, Closed or Limited for OHV use. These designations are made in the RMPs or in plan amendments. Additionally, the criteria for route designation are established in the RMP. (43 CFR Part 8340)

Table E-1 lists the miles of routes and trails currently designated and miles of unauthorized routes in the BFKO.

Table E-1
Miles of Routes and Trails

Category	Miles
Designated Routes and Trails	978.3
Unauthorized Routes and Trails (i.e., user-created)	942.7
Total	**1,921**

Implementation Decisions – The designation of routes is an implementation decision. Designation involves the selection and identification of roads and trails to be included in a travel plan system.

Route designation considerations common to all action alternatives include the following criteria, as developed by the Interdisciplinary Team in preliminary alternative-development meetings:

- In areas identified as "Limited to Designated" routes, only designated routes are open to motorized use.
- Areas and trails shall be located to minimize damage to soil, watershed, vegetation, or other resources of the public lands.
- Areas and trails shall be located to minimize harassment of wildlife or significant disruption of wildlife habitats.
- Areas and trails shall be located to minimize conflicts between off-road vehicle use and other existing or proposed recreational uses of the same or neighboring public lands.
- Areas and trails shall be located to ensure the compatibility of such uses with populated areas, taking into account noise, safety, and other factors.
- Areas and trails shall not be located in officially designated wilderness areas or primitive areas.
- Areas and trails shall be located to ensure the compatibility with adjacent land uses and management, such as with National Forest System lands and the Carrizo Plain National Monument.
- Areas and trails will be designated and managed in accordance with the management objectives of other resources and designations (e.g., Areas of Critical Environmental Concern).
- Any fire, military, emergency or law enforcement vehicle when used for emergency purposes is exempted from OHV decisions.
- Wilderness Study Areas (WSAs) are to be designated as closed to OHV use, and must be managed and monitored to comply with the interim management policy nonimpairment standard.
- As required in 43 CFR Sec. 8342.3 (Designation changes): "The authorized officer shall monitor effects of the use of off-road vehicles. On the basis of information so obtained, and whenever the authorized officer deems it necessary to carry out the objectives of this part, designations may be amended, revised, revoked, or other actions taken pursuant to the regulations in this part."

E.2.1 Authority and Guidance for Travel Management

Alternatives have been developed based on the following authority and guidance specific to travel management for the BLM:

- Executive Order No. 11644, February 8, 1972 (37 *Federal Register* 2877) – This order established criteria by which federal agencies were to develop regulations for the management of OHVs on lands under their management. Agencies are to "monitor the effects" of OHV use on their public lands and, "on the basis of the information gathered, they shall from time to time amend or rescind designation of areas for OHV use "as necessary to further" its policy.

- Executive Order No. 11989, May 25, 1977 (42 *Federal Register* 26959) – This order amended Executive Order 11644 and authorized agencies to adopt a policy that particular lands can be considered closed to OHVs once it is determined that OHV use "will cause or is causing considerable adverse effects" to particular resources.
- 43 CFR Part 8340 – OHV Regulations that establish criteria for designating lands as Open, Limited, or Closed to the use of OHVs.
- Instruction Memorandum No. 2006-173, Implementation of Roads and Trails Terminology Report (BLM 2006).
- Instruction Memorandum No. 2008-014, Clarification of Guidance and Integration of Comprehensive Travel Transportation Management Planning into the Land Use Planning (BLM 2007).
- *National Management Strategy for Motorized Off-Highway Vehicle Use on Public Lands* (BLM 2001).

E.3 TRAVEL PLAN DESIGNATION PROCESS

A goal of the BKFO planning process is to develop, with stakeholders, a travel plan that will provide access to public lands. The goals and objectives of the travel plan applies to all areas of travel management including access to resources, appropriate recreation opportunities that at the same time protect public land resources, ensure public safety, minimize conflicts among the various public land uses, and provide for support of the local economy.

More specifically, desired future conditions or desired outcomes are stated as goals and objectives. Goals are broad statements of desired outcomes (RMP-wide and resource or resource use specific) and generally are not quantifiable or measurable. Objectives are more-specific desired conditions or outcomes for resources to meet the resource/resource use goal. For key issues, objectives are different across alternatives; for other issues, objectives can be the same across alternatives.

Management actions and allowable uses are designed to achieve the objectives. Management actions include management measures that will guide future and day-to-day activities such as administrative designations (e.g., Areas of Critical Environmental Concern, suitable stream segments for inclusion in the National Wild and Scenic Rivers System), land tenure zones, and proposed withdrawals. Allowable uses indicate which uses are allowed, restricted, or prohibited, such as stipulations. Allowable uses also identify lands where specific uses are excluded to protect resource values, or where certain lands are open or closed in response to legislative, regulatory, or policy requirements.

Implementation decisions generally constitute site-specific on-the-ground actions and are not addressed in the RMP revisions, with the exception of travel management decisions and a few other specific areas.

E.3.1 BACKGROUND

In the early 1980s, in response to the Presidential Executive Orders 11644 and 11989, the BLM began designating all public lands in one of three OHV designation categories. Thus public lands

within the BKFO RMP planning area were designated as open, limited to existing roads and trails, limited to designated roads and trails, and closed to OHV use. The designations are as follows:

Open – The BLM designates areas as "open" for intensive OHV use where there are no compelling resource protection needs, user conflicts, or public safety issues to warrant limiting cross-country travel. However, motor vehicles may not be operated in a manner causing or likely to cause significant, undue damage to or disturbance of the soil, wildlife, wildlife habitat improvements, cultural or vegetative resources or other authorized uses of the public lands (See 43 CFR 8341).

Limited – The "limited" designation is used where OHV use must be restricted to meet specific resource management objectives. In the current guidance context, this means limited to designated roads and trails, i.e., a route network designated by the BLM in its RMP. These routes may also be limited to: A time or season of use depending on the resources in the area (i.e., Threatened and Endangered Species' habitat or nesting areas, crucial winter ranges, etc.); and/or Type of vehicle use (ATV, Motorcycle, four-wheel vehicle, etc.)

Closed – The BLM designates areas as "closed" if closure to vehicular use is necessary to protect resources, ensure visitor safety, or reduce resource or use conflicts. Access by means other than motor vehicle access is generally allowed. The Field Office Manager may allow OHV use on a case-by-case basis or for emergencies.

In the current RMP process and national guidance for the OHV Limited category designation has changed. Designating Open, Closed, and Limited areas for OHV use continues to be mandated, but under the Limited category only the "Limited to Designated Roads and Trails" sub-category is recommended. The designation of the sub-category "Existing Roads and Trails" is no longer a recommended option. Eliminating the "Existing Roads and Trails" sub-category prevents confusion and enforcement problems concerning new unauthorized routes being created and then used by the public because they are then "existing". By policy (Instruction Memorandum No. 2008-014 [BLM 2007]), BLM discourages of the use of the "Limited to Existing" category.

Through the 1997 Caliente Resource Area RMP, the BLM designated all public lands within the BKFO decision area as Closed or Limited to Designated Roads and Trails (BLM 1997). None of the decision area was designated as open and very few of the designated routes have been specified for a particular use (i.e., motorized, mechanized, or nonmotorized).

E.3.2 Interdisciplinary Team Process

The Interdisciplinary Team of BLM resource specialists in the BKFO who participated in the completion of the Comprehensive Travel Management Plan is listed in Table E-2.

Table E-2
BKFO Interdisciplinary Team Members

Name	Resource
Lisa Ashley	Air, Soil, Water
Kim Cuevas	Archaeology
Nora DeDios	Interim Project Manager
Peter DeWitt	Recreation, Comprehensive Trails and Travel Management, Special Designations
Karen Doran	Range
Denis Kearns	Botany
Steve Larson	Assistant Field Manager
Jeff Prude	Minerals
Chris Ryan	Fire
Larry Saslaw	Wildlife
Diane Simpson	Realty
Larry Vredenburgh	Geographic Information Systems (GIS)

Between March and April 2009, the BKFO Interdisciplinary Team held meetings and workshops specifically concerning the travel plan. Throughout the process, the BKFO coordinated efforts with the Sequoia National Forest, which is also in the process of designating routes on National Forest System lands. The BLM used Sequoia National Forest's proposed route designations as a means to coordinate on routes crossing federal land boundaries. This was especially important for routes in the Lake Isabella area where some National Forest routes require access across BLM-administered public lands.

E.3.3 Trails and Routes Data-Collection Workshops

The BLM hosted two trails and routes data-collection workshops, one in Lake Isabella (February 25, 2009) and one in Taft (February 26, 2009). The workshops were held to allow the public to (1) review the BLM's inventory for accuracy and completeness; (2) provide information on routes that are missing from the BLM's inventory; and (3) offer suggestions for reroutes or new trail sections that would complement the existing route system. These workshops focused specifically on the Lake Isabella and Taft areas. Table E-3 shows the date, location, and number of attendees for each workshop. Both meetings were from 6:00 pm to 8:00 pm.

Table E-3
Trails and Routes Data Collection Workshop Attendance

Location (California)	Date	Number of Attendees
Lake Isabella Lake Isabella Moose Lodge 6732 Lake Isabella Boulevard	February 25, 2009	44
Taft Taft Union High School 701 7th Street	February 26, 2009	14
Total		**58**

Both open houses were structured in a similar format. Attendees were asked to sign in and a brief PowerPoint presentation was given by BLM representatives about the travel management and route designation process and the goals and objectives of the workshop. A comment form and handout with a brief overview of the travel management planning process were available to all attendees.

An overview map was displayed at the entrance of the room that showed the Field Office boundary and the different travel management zones within the Field Office. The Lake Isabella area was divided into 12 arbitrary travel management zones, which were labeled A through L. The Taft area was divided into six arbitrary travel management zones, which were labeled A through F. Dividing each recreation area into a number of management zones enabled the public to focus on a specific area of interest and locate routes more easily.

Work stations were set up around the room with topographic-based maps displaying the inventoried trails and routes for each zone. Attendees were asked to complete a comment form and draw on the maps to document any missing existing trails and routes. Proposed new routes were also drawn on the maps. Pencils and markers were available to edit the maps.

The comment period for routes and trails data collection was open until March 13, 2009. The public could submit comments by completing the comment form and sending it via email, US mail, facsimile, or hand delivery to the BKFO. Copies of all travel management zone maps and comment forms were available at the two workshops and at the BKFO.

A total of seven submissions were received by the deadline of March 13, 2009, which includes all comment forms, e-mails, and letters. The BLM received one submission via the comment form, one letter submission, and five submissions via e-mail. Some written submissions included numerous comments, overlapping comments, and incomplete comments. As such, the seven submissions contained numerous unique comments. Most comments gave information on the purpose and the individuals' use of the routes. Other comments expressed support of or opposition to BKFO policies related to travel management. One submission provided GPS data to fill in a missing route. A record of comments received is part of the administrative record for the RMP revision process.

E.3.4 Other Coordination

The BLM also extended invitations to local agencies, user groups, and permittees to discuss the route designation process. The BLM met with Stewards of the Sequoia, California Off-road Vehicle Association, the Taft Motorcycle Club, and a representative of Kern County. Grazing permittees were also consulted regarding their usage of routes related to grazing practices.

In June 2009, the BKFO presented its route designation maps to the OHV sub-group to the Central California Resource Advisory Council.

E.3.5 Identification of Issues

Travel management issues were identified by BLM resource specialists in the preparation plan, through the public scoping process, and by input from the public during scoping for the RMP and specifically for travel management planning.

BLM staff identified the following factors describing the condition of travel management within the planning area, thereby identifying the need for developing a Comprehensive Travel Management plan.

- The 1997 RMP for the Caliente Resource Area is inadequate to address the rapid expansion of recreational vehicle use and visitation on public lands;
- Lack of planning for OHV recreation activities in popular areas, such as the Keyesville, Taft, and Tehachapi;
- The lack of legal access to public lands, through ROWs and easements, where public land is isolated within privately owned areas;
- Unauthorized creation of "bandit" routes causing impacts on other resources; and
- Growing conflicts among recreational users.

Scoping for the RMP revealed some disagreement about how best to maintain the route system within the BKFO. Some desire the network to be maintained or improved and expanded. Opposing this sentiment were comments recommending stricter controls on access, particularly with concern for off-road vehicle uses. Closing and restoring redundant or unnecessary roads, and leaving some roads unpaved to help maintain the Bakersfield RMP area's undeveloped character was also requested. Specific requests included more single track access only and increased development of this type of trails. Many comments were received expressing a desire for additional OHV opportunities on public lands.

Developing Planning Criteria

Considerations of both social and physical elements help define the criteria for a travel plan. Social aspects include public demands, historical uses, existing rights-of-way, permitted uses, public access, resource development, law enforcement and safety, conflicts between existing or potential uses, recreation opportunities, local uses, cultural and economic issues. Physical aspects include the

terrain, soils, water, vegetation, and watersheds, connectedness of routes, special designations, demands for specific types of vehicle use, and manageability considerations.

The BLM will manage access on public lands in accordance with existing law, executive orders, proclamation, regulation, and policy. General planning criteria for the RMP process includes:

- Laws – The plan will comply with all applicable laws and will analyze the effects of the alternatives in an EIS in compliance with the National Environmental Policy Act of 1969 (NEPA).
- Decisions – All decisions made in the RMP will only apply to public lands administered by the BLM.
- Existing Rights – The plan recognizes current, valid existing rights.

Specific to the travel plan, the criteria include:

- National OHV Policy – Decisions regarding OHV travel will be consistent with the BLM's National OHV Strategy.
- RS 2477 – Rights-of-way may exist across the BKFO, although adjudication is beyond the scope of this RMP.

OHV Designation Criteria

BLM's designation of OHV use areas is guided by 43 CFR 8342.1, which states that designations shall be based on the protection of resources, the promotion of the safety of all users of public lands, and the minimization of land use conflicts. Minimization criteria are defined in 43 CFR 8342.1:

- [Designated] areas and [designated] trails shall be located in a manner to minimize impacts to physical resources (soils, watershed, vegetation, air, and other resources) and to prevent impairment of wilderness suitability;
- [Designated] areas and [designated] trails shall be located to minimize harassment of wildlife or significant disruption of wildlife habitats. Special attention will be given to protect endangered or threatened species and their habitats;
- [Designated] areas and [designated] trails shall be located to minimize conflicts between off-road vehicle use and other existing or proposed recreation uses, and to ensure the compatibility of such uses with existing conditions in populated area; and
- [Designated] areas and [designated] trails shall not be located in officially designated wilderness areas or primitive areas, and shall be located in natural areas only if the authorized officer determines that off-road vehicle use in such locations will not adversely affect their natural, esthetic, scenic, or other values for which established.

BKFO Considerations for Travel Plan

In addition to the criteria defined in 43 CFR 8342.1, preliminary screening criteria that were considered during the route designation process, and would be considered during future route modifications, include the following:

1. Resource concerns. This includes soil stability, special wildlife habitat, visual resources, cultural and paleontological resources, special management areas, etc.
2. Route conditions. This includes route use, route purpose, and parallel or duplicate routes.
3. Public concerns such as noise abatement and urban buffer zones.

Route Designations in Wilderness Study Areas

Information Bulletin No. 99-181 (BLM 1999) directs BLM to comply with the wilderness nonimpairment mandate (Federal Land Policy and Management Act of 1976, Section 603(c)). BLM must monitor and regulate the activities of off-highway vehicles in WSAs to assure that their use does not compromise these areas by impairing their suitability for designation as wilderness. The BLM's Off Road Vehicle Regulations (43 CFR 8342.1) require that BLM establish off-road vehicle designations of areas and routes that meet the non-impairment mandate. It is the BLM's policy that cross-country vehicle use in the WSAs does cause the impairment of wilderness suitability. The BKFO has decided to close all routes in WSAs to meet the non-impairment standard.

Administrative Access and Use

Routes considered for Administrative Use Only were discussed by the Interdisciplinary Team. These administrative categories could include routes to stock ponds and other range improvements, guzzlers, and BLM facilities. The BKFO reserves the right to allow travel on these routes to permittees, BLM employees, or whomever it deems appropriate on a case-by-case basis.

Emergency Uses

By regulation, any fire, military, emergency or law enforcement vehicle when used for emergency purposes is exempted from OHV decisions. Emergency uses in Wilderness and WSAs are covered in BLM Manual 8560, Management of Designated Wilderness Areas (BLM 1983) and BLM Handbook H-8550-1, Interim Management Policy for Lands Under Wilderness Review (BLM 1995), respectively.

Emergency Limitations or Closures

Whenever the authorized officer determines that OHV use will cause or is causing considerable adverse effects on resources (i.e., soil, vegetation, wildlife, wildlife habitat, cultural, historic, scenic, recreation, or other resources), the area must be immediately closed to the type of use causing the adverse effects (43 CFR 8341.2). Such limitation or closures are not OHV designations.

E.4 BKFO Travel Plan Alternative Development

As part of the BLM's RMP revisions process, the BLM is developing a complementary travel management plan for all BLM-administered lands within the BKFO. The revised RMP will comprehensively plan for all types of travel (recreational, casual, agricultural, industrial, administrative, etc.) and accompanying modes and conditions of travel, including motorized, mechanized, and nonmechanized (muscle-powered) uses.

E.4.1 Goal

The goal of the travel plan is to provide opportunities for a range of motorized and nonmotorized access and recreation experiences on public lands while protecting sensitive resources and minimizing conflicts among various users.

This process includes preparing a range of alternatives for inclusion in the draft RMP/EIS. The BLM will provide a range of alternatives as to which areas of the BKFO will be Closed to OHV travel and which areas will be Limited to Designated Routes. BLM will provide a range of alternatives by varying miles of closed and designated routes.

E.4.2 Route Designations and Interdisciplinary Team Meetings

Interdisciplinary Team meetings to address route/resource conflicts and route designations were held in March and April 2009 in which each route proposed for designation within the BKFO, including the Lake Isabella and Taft areas, was evaluated.

The purpose of the route designation Interdisciplinary Team meetings was three-fold:

1. Gather input from Interdisciplinary Team on conflicts identified and mitigation proposed by each resource specialist. Identify (where known) the purpose and need for the route in question. Where conflicts with resources existed, these conflicts were discussed and resolved during the meeting, and final proposals for the various alternatives were established.
2. Formulate three action alternatives for the travel plan: The conservation alternative emphasizes resource conflicts over the purpose and need for the route. The development alternative emphasizes the purpose and need for the route over resource conflicts. The blended alternative weighs both resource conflicts and the purpose and need.
3. Develop a designed system of designated routes that fulfills the management goal for the planning area.

The RMP administrative record contains details of the conflicts identified for each route or route segment and BLM's conclusions as to designation.

Motorized Routes

Motorized travel includes standard passenger vehicles on maintained roads and OHVs on primitive roads and trails. OHVs include off-road motorcycles, ATVs, jeeps, specialized 4x4 trucks, and snowmobiles.

Nonmotorized Routes

Nonmotorized use includes moving by foot, stock or pack animal, nonmotorized boat, or mechanical vehicle such as bicycles that are not motorized. The BKFO concluded that routes not designated for motorized travel generally would be available for nonmotorized and nonmechanized travel. As with all designations in the travel plan, BLM reserves the right to change designations in the future, should resource issues warrant such action.

Nonmechanized

Nonmechanized travel by includes travel by natural means, such as by foot or horseback. Mechanical vehicles, such as bicycles, are not permitted on nonmechanized routes, except for approved, nonmotorized ADA accessible devices.

Authorized Routes

Use of authorized routes requires a permit or other form of authorization from the BLM.

Closed Routes

Closed routes are routes that are not available for public or administrative uses. Closed routes can be restored.

E.5 Plan Maintenance and Changes to Route Designations

The RMP should include indicators to guide future plan maintenance, amendments, or revisions related to OHV area designations or the approved road and trail system within Limited areas (Instruction Memorandum No. 2008-014, Attachment 1 [BLM 2007]). Indicators could include results of monitoring data, new information, or changed circumstances.

Modifications to area OHV designations (open, closed, or limited) require an amendment to the RMP. Actual route designations can be modified without completing a plan amendment, although NEPA compliance is still required. The Federal regulations at 43 CFR 8342.3 state: "The authorized officer shall monitor effect of the use of off-road vehicles. On the basis of information so obtained, and whenever the authorized officer deems it necessary to carry out the objectives of this part, designations may be amended, revised, revoked, or other action taken pursuant to the regulation in this part."

Within the RMP, the BKFO must establish procedures for making modifications to their designated route networks. Because future conditions may require the designation or construction of new routes or closure of routes in order to better address resources and resource use conflicts, the BKFO will expressly state how modification would be evaluated.

Plan maintenance can be accomplished through additional analysis and land use planning, e.g., activity level planning. BLM will collaborate with affected and interested parties in evaluating the designated road and trail network for suitability for active OHV management and envisioning potential changes in the existing system or adding new trails that would help meet current and future demands. In conducting such evaluations, the following factors would be considered:

- Routes suitable for different categories of OHVs including dirt bikes, ATVs, dune buggies, and 4-wheel drive touring vehicles, as well as opportunities for joint trail use;
- Needs for parking, trailheads, informational and directional signs, mapping and profiling, and development of brochures or other materials for public dissemination;
- Opportunities to tie into existing or planned route networks;
- Measures needed to avoid onsite and offsite impacts to current and future land uses and important natural resources; among others, issues include noise and air pollution, erodible soils, stream sedimentation, non-point source water pollutions, listed and sensitive species' habitats, historic and archeological sites, wildlife, special management areas, grazing operations, fence and gate security, needs of non-motorized recreationists, and recognition of property rights for adjacent landowners; and
- Public land roads or trails determined to cause considerable adverse effects or to constitute a nuisance or threat to public safety would be considered for relocation or closure and rehabilitation after appropriate coordination with applicable agencies and partners.

Those areas managed as Closed will not be available for new motorized or mechanized route designation or construction.

Regulations at 43 CFR 8342.2 require BLM to monitor the effects of OHV use. Changes should be made to the Travel Plan based on the information obtained through monitoring. Procedures for making changes to route designations after the ROD is signed are established in the RMP.

Site specific NEPA documentation is required in order to change the route designations in this Travel Plan.

E.6 Implementation Process

Implementation decisions are actions to implement land use plans and generally constitute BLM's final approval allowing on-the-ground actions to proceed. These types of decisions are based on site-specific planning and NEPA analyses and are subject to the administrative remedies set forth in the regulations that apply to each resource management program of the BLM. Implementation decisions are not subject to protest under the planning regulations.

Instead, implementation decisions are subject to various administrative remedies. Where implementation decisions are made as part of the land use planning process, they are still subject to the appeals process of other administrative review as prescribed by specific resource program regulations after BLM resolves the protests to land use plan decisions and make a decision to adopt or amend the RMP.

Travel planning and implementation process includes the following:

- A map of roads and trails for all travel modes.
- Definitions and additional limitations for specific roads and trails.
- Criteria developed to set parameters and to specify limitations.
- Guidelines for management, monitoring, and maintenance of the system.
- Indicators to guide future plan maintenance, amendments or revisions related to OHV area designations or the approved road and trail system within limited areas.

The travel management networks should be reviewed periodically to ensure that current resource and travel management objectives are being met (43 CFR 8342.3).

In the final RMP decisions, designated OHV routes will be portrayed by a map entitled "Field Office Travel Plan and Map". This map will be the basis for signing and enforcement. The Field Office will prioritize actions, resources, and geographic areas for implementation. The implementation goals include completing signage, maps, public information, kiosks, and working with partners.

E.7 REFERENCES

43 C.F.R. Part 8340

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Executive Order No. 11644, February 8, 1972

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APPENDIX F

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Record of Decision

Central California

STANDARDS

for Rangeland Health

and

GUIDELINES

for Livestock Grazing Management

Prepared by the Bureau of Land Management California State Office June 1999

ABSTRACT

Central California

Standards for Rangeland Health and Guidelines for Livestock Grazing Management

Draft ( ) Final ( ) Record of Decision (X) United States Department of the Interior, Bureau of Land Management (BLM)

1 Type of Action: Administrative (X) Legislative ( )

2 Abstract: This is the Record of Decision for the environmental impact statement (EIS) documenting the effects of adopting regional standards for rangeland health and guidelines for livestock grazing management on BLM-administered lands in parts of California and NW Nevada. This Record of Decision covers that part of Central California formerly known as the Bakersfield District.

The Preferred Alternative described in the final EIS (Alternative 5), has been chosen as the Standards and Guidelines for Central California. The changes reflected in this Decision are within the scope and analysis of the EIS.

These Standards and Guidelines will be recommended to the Secretary of the Interior for final approval. They will take effect immediately upon that approval.

This document contains the actual Decision establishing Rangeland Health Standards and Guidelines for Central California. It includes the following:

-Decision on Plan Amendments
-Standards and Guidelines for 'Central California (formerly the Bakersfield District)
-Implementation Plan
-Monitoring Plan

Al Wright, Acting State Director — Date: 6.14.99

Bureau of Land Management
California State Office

SUMMARY

This is the Record of Decision (Decision) recommending Rangeland Health Standards and Livestock Grazing Management Guidelines for Central California. These recommendations will be submitted to the Secretary of the Interior (Secretary) for his approval, and will become effective immediately upon that approval.

The Decision amends BLM land use plans in Central California to include the Standards and Guidelines and directs evaluation of existing, and development of new, Desired Plant Community (DPC) standards to ensure conformance of the DPCs with the Standards.

The Decision selects the Preferred Alternative described in the final EIS (Alternative 5), with minor changes for clarification, as the Rangeland Health Standards and Guidelines to be submitted to the Secretary for his approval.

The Decision describes how the Standards and Guidelines will be implemented and how rangeland health conditions will be monitored to assure achieving the Standards.

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DECISION

1. INTRODUCTION

There were five alternatives considered and analyzed in the EIS. Alternative 1 consisted of the standards and guidelines developed by the three Resource Advisory Councils (RACs) for their representative areas. Alternative 2 consisted of the state-wide standards developed by BLM, in consultation with representatives from each of the RACs, but without concurrence by the entire RAC membership. The guidelines for Alternative 2 were essentially the same as those for Alternative 1. Alternative 3 was adoption of the national "fall-back" standards and guidelines listed in the regulations. Alternative 4 (the environmentally preferred alternative) was a rapid improvement or rapid recovery alternative developed by BLM, with suggestions from several interest groups. The Standards in Alternative 4 were the same as those in Alternative 2, except for Water Quality; however, the implementation would have occurred much faster than under other alternatives. Alternative 5 was a modified version of Alternative 1, with changes based upon suggestions and new information from the public, the RACs, and BLM.

The Decision is to select Alternative 5, with some minor changes and clarifications, all of which are within the scope of the analysis. This decision will become effective immediately upon approval by the Secretary of the Interior.

This Alternative was selected for a number of reasons, including (1) it meets the requirements of the regulations at 43 CFR 4180.1 and 4180.2 to address the principles of rangeland health; (2) it was based upon and incorporates a large portion of the regional standards and guidelines recommended by the Resource Advisory Council; (3) it incorporates some good suggestions by other agencies and the public; (4) it is based upon sound science as requested repeatedly by the different parties who commented on the process; and (5) it can be implemented within BLM's existing budgets without undue economic impacts to the grazing operators and the surrounding communities.

2. PLAN AMENDMENTS

In accordance with the grazing administration regulations at 43 CFR 4100, existing land use plans (Resource Management Plans and Management Framework Plans) have been examined to determine their compliance with the new regulations and the principles of rangeland health. In most cases, these plans do comply.

The land use plans identified below, as well as allotment management and other activity level plans, are hereby amended to include the standards and guidelines as adopted in this decision. The standards and guidelines will become effective immediately upon approval by the Secretary of the Interior and will be incorporated into the Plans at that time. Where there are plan decisions that are contrary to the new regulations, the principles of rangeland health, and the standards and guidelines, those decisions will be deleted from the plans or amended to comply.

Where "desired plant community" (DPC) objectives have been determined through the BLM planning and NEPA processes, the DPCs will be evaluated to ensure they meet the standards of rangeland health. Where DPCs have not yet been determined for a pasture or allotment, they will be developed through the BLM planning and NEPA processes to meet local and regional management objectives, and the standards of rangeland health.

Each Field Office will make the physical changes to their land use plans prior to the next grazing season. As this is merely plan maintenance, further NEPA analysis will not be necessary to complete this administrative action.

LAND USE PLAN	PLAN DATE	FIELD OFFICE
Sierra Management Framework Plan Amendment	1988	Folsom
Hollister Resource Management Plan	1984	Hollister
Clear Creek Amendment	1995	Hollister -- part only
Bishop Resource Management Plan	1993	Bishop
Caliente Resource Management Plan	1997	Caliente

3. STANDARDS AND GUIDELINES for RANGELAND HEALTH in CENTRAL CALIFORNIA

The Preferred Alternative described in the final EIS (Alternative 5), with minor changes for clarification, has been chosen as the Standards and Guidelines for Central California. The changes reflected in this Decision are within the scope and analysis of the EIS. These Standards and Guidelines will take effect immediately upon their approval by the Secretary of the Interior.

These standards and guidelines were developed for, and are hereby adopted for, that part of central California formerly known as the Bakersfield District.

Preamble

The standards for rangeland health and guidelines for livestock management on Bureau of Land Management lands are written to accomplish the four fundamentals of rangeland health, insofar as the standards are affected by livestock grazing practices. Those fundamentals are:

A. Watersheds are properly functioning;
B. Ecological processes are in order;
C. Water Quality complies with State standards; and,
D. Habitats of protected species are in order.

A "standard" serves as the criterion to determine if management actions are resulting in the maintenance or attainment of healthy rangelands per the four fundamentals of rangeland health. Standards are expressions of physical and biological conditions or degree of function required for healthy, sustainable rangelands. "Guidelines" serve as the vehicle to implement management actions related to livestock grazing to accomplish rangeland health standards. Guidelines will indicate the types of grazing methods and practices determined to be appropriate to ensure that standards can be met. The public should be an active participant in the application of these standards and guidelines.

Standards and guidelines will apply to all BLM lands within the geographic area for which they are written. Using the complete set of standards and guidelines, the local BLM range managers, in consultation with grazing permittees and other interested parties, will determine "terms and conditions" for each grazing allotment. These terms and conditions are the specific grazing practices that are appropriate for that allotment.

BLM lands vary so greatly in topography, climate, soils, water availability, size and distribution of parcels, and other factors, that local managers must have the flexibility needed to determine which grazing practices will work best in each area, and to change those practices when necessary to achieve the desired rangeland conditions.

The scientific evidence and collective knowledge of the public and rangeland managers show a wide variety of grazing effects on plants, animals and watersheds. As a result, the application of these standards and guidelines will emphasize using the best available information for a site-specific situation, and the results of historical grazing patterns should be given significant weight in any decisions about grazing practices to be followed on BLM allotments. Where historical grazing use has been compatible with meeting the standards for soils, species, riparian areas or water quality, no permanent changes should be mandated in the existing grazing patterns without substantial scientific evidence that changing the existing grazing pattern will improve the ability to achieve the standards.

For any standard, guideline, term, or condition to work, it must be capable of being achieved, based on sound science or good common sense, and be measurable, understandable, and economically feasible. There is no use in setting standards that cannot be met.

Successful application of these standards and guidelines will depend on BLM's capability to monitor rangeland conditions and implement management practices. Each Bureau office should develop a monitoring and implementation plan that sets priorities based on resource conditions, trends, and resource values.

CENTRAL CALIFORNIA STANDARDS FOR RANGELAND HEALTH

STANDARD: SOILS

Soils exhibit functional biological and physical characteristics that are appropriate to soil type, climate, and land form.

Meaning That:

Precipitation is able to enter the soil surface at appropriate rates; the soil is adequately protected against accelerated erosion; and the soil fertility is maintained at appropriate levels.

As Indicated By:

* Ground cover (vegetation and other types of ground cover such as rock) is sufficient to protect sites from accelerated erosion.

* Litter/residual dry matter is evident, in sufficient amounts to protect the soil surface.

* A diversity of plant species, with a variety of root depths, is present and plants are vigorous during the growing season.

* There is minimal evidence of accelerated erosion in the form of rills, gullies, pedestaling of plants or rocks, flow patterns, physical soil crusts/surface sealing, or compaction layers below the soil surface

* Biological (microphytic or cryptogamic) soil crusts are in place where appropriate.

STANDARD: SPECIES

Viable, healthy, productive, and diverse populations of native and desired species, including special status species (Federal T&E, Federal proposed, Federal candidates, BLM sensitive, or Calif. State T&E) are maintained or enhanced where appropriate.

Meaning That:

Native and other desirable plant and animals are diverse, vigorous, able to reproduce and support the hydrologic cycle, nutrient cycles, and energy flows over space and time.

As Indicated By:

* Wildlife habitats include seral stages, vegetation structure, and patch size to promote diverse and viable wildlife populations.

* A variety of age classes are present for most perennial plant species.

* Plant vigor is adequate to maintain desirable plants and ensure reproduction and recruitment of plants when favorable climatic events occur.

* The spatial distribution and cover of plant species and their habitats allows for reproduction and recovery from localized catastrophic events.

* A diversity of plant species with various phenological stages and rooting depths are present on sites where appropriate.

* Appropriate natural disturbances are evident.

* Levels of non-native plants and animals are at acceptable levels.

* Special status species present are healthy and in numbers that appear to ensure stable to increasing populations; habitat areas are large enough to support viable populations or are connected adequately with other similar habitat areas.

* Adequate organic matter (litter and standing dead plant material) is present for site protection and decomposition to replenish soil nutrients.

* Where appropriate, biological soil crusts (also called microphytic or cryptogamic soil crusts) are present and not excessively fragmented.

* Noxious and invasive species are contained at acceptable levels.

STANDARD: RIPARIAN

Riparian/wetland vegetation, structure and diversity, and stream channels and floodplains are functioning properly, and meeting regional and local management objectives.

Meaning That:

The vegetation and soils interact to capture and pass sediment, sustain infiltration, maintain the water table, stabilize the channel, sustain high water quality, and promote biodiversity appropriate to soils, climate, and landform.

As Indicated By:

Vegetation Attributes:

* Vegetation cover is greater than 80% or the percentage that will protect banks and dissipate energy during high flows.

* Age-class and structure of woody/riparian vegetation are diverse and appropriate for the site.

* Where appropriate, shading is sufficient to provide adequate thermal regulation for fish and other riparian dependent species.

* Where appropriate, there is adequate woody debris.

* A diversity of plant species with various phenological stages and rooting depths is present. Root masses are sufficient to stabilize stream banks and shorelines.

* Plant species present indicate that soil moisture characteristics are being maintained.

* There is minimal cover of invader/shallow-rooted species.

* Adequate organic matter (litter and standing dead plant material) is present to protect the site and to replenish soil nutrients through decomposition.

* Point bars are vegetated.

Physical Indicators:

* Streambank stability, pool frequency, substrate sediments, stream width, and bank angles are appropriate for the stream type.

STANDARD: WATER QUALITY

Surface and groundwater complies with objectives of the Clean Water Act and other applicable water quality requirements, including meeting the California State standards.

Management Objective: For water bodies, the primary objective is to maintain the existing quality and beneficial uses of water, protect them where they are threatened (and livestock grazing activities are a contributing factor), and restore them where they are currently degraded (and livestock grazing activities are a contributing factor). This objective is of even higher priority in the following situations:

(a) where beneficial uses of water bodies have been listed as threatened or impaired pursuant to Section 303(d) of the Federal Clean Water Act;

(b) where aquatic habitat is present or has been present for Federal threatened or endangered, candidate, and other special status species dependent on water resources; and,

(c) in designated water resource sensitive areas such as riparian and wetland areas.

Meaning That:

BLM will, pursuant to the Clean Water Act:

Maintain the physical, biological, and chemical integrity of waters flowing across or underlying the lands it administers;

Protect the integrity of these waters where it is currently threatened;

Insofar as is feasible, restore the integrity of these waters where it is currently impaired;

Not contribute to pollution and take action to remedy any pollution resulting from its actions that violates applicable California (including the requirements identified in Regional Basin Plans), or Tribal water quality standards or other applicable water quality requirements (e.g., requirements adopted by SWRCB or RWQCB in California, or US EPA pursuant to Section 303(d) of the Clean Water Act or the Coastal Zone Reauthorization Act). Where action related to grazing management is required, such action will be taken as soon as practicable but not later than the start of the next grazing year (in accordance with 43 CFR 4180.1).

Be consistent with the non-degradation policies identified in the Regional Basin Plans in California.

Work with the State (including the Regional Water Quality Control Boards) and U.S. EPA to establish appropriate beneficial uses for public waters, establish appropriate numeric targets for

303(d)-listed water bodies, and implement the applicable requirements to ensure that water quality on public lands meets the criteria for the designated beneficial uses of the water.

Develop and implement Best Management Practices (BMPs) approved by the SWRCB to protect and restore the quality and beneficial uses of water, and monitor both implementation and effectiveness of the BMPs. These BMPs will be developed in full consultation, coordination, and cooperation with permittees and other interests.

As Indicated By:

* The following do not exceed the applicable requirements: chemical constituents, water temperature, nutrient loads, fecal coliform, turbidity, suspended sediment, and dissolved oxygen.

* Achievement of the standards for riparian, wetlands, and water bodies.

* Aquatic organisms and plants (e.g., macroinvertebrates, fish, algae, and plants) indicate support for beneficial uses.

* Monitoring results or other data that show water quality is meeting the standard.

CENTRAL CALIFORNIA GUIDELINES FOR GRAZING MANAGEMENT:

Guideline 1: Livestock grazing operations will be conducted so that progress is made toward maintaining or promoting adequate amounts of vegetative ground cover, including standing plant material and litter to support infiltration and permeability, and maintain soil moisture storage and soil stability appropriate for the ecological sites within the management units. The ground cover should maintain soil organisms, plants, and animals to support the hydrologic and nutrient cycles, and energy flow.

Guideline 2: Implement grazing systems that regulate the timing and intensity of grazing. Continuous season-long grazing use is allowed if it has been demonstrated that it can be consistent with achieving a healthy, properly functioning ecosystem. Grazing systems should specify season of use based on plant phenology and geohydrologic processes where appropriate. On annual rangelands, mulch management should be used to define target forage use levels that will ensure that sufficient amounts of residual dry matter (RDM) or standing plant material will be maintained throughout the grazing season. Mulch levels for annual grasses should meet the requirements of Table A, whenever feasible. Mulch levels will include a "buffer" to account for RDM loss from other natural processes (decomposition, animal use, etc.). Exceptions may be approved during the green season when substantial regrowth is expected or if lower RDM levels are required to meet particular rangeland health objectives, such as reducing competition for a desired species.

Guideline 3: On Annual Range, readiness will be determined by: (1) Minimum RDM levels at the time of turnout prior to green season growth are exceeded by 200 pounds per acre; or (2) Minimum RDM levels and at least 2 inches of new growth are present in the growing season.

Guideline 4: Where appropriate, use grazing systems that maintain the presence and distribution of microsites for seed germination.

Guideline 5: Perennial plant utilization should be limited to appropriate levels of the current year's growth as indicated in Table A, unless it has been proven that this level of use is incompatible with the continued existence of the plant.

Management changes will be implemented (e.g., reductions in stocking rate or another management change) if utilization guidelines on the average of the upland key areas across the pasture (or allotment if there is only one pasture) are exceeded for 2 consecutive years or in any 2 years out of every 5 years. In addition, at least 70% of upland key areas on the pasture (or allotment) are not to exceed maximum utilization guidelines in most years. Because of the potential long-term damage to perennial grass species associated with severe grazing, severe grazing use (>70% utilization) in any upland key area in any year will result in a management change the following year. If any particular key area fails to meet the guidelines for more than 2 consecutive years, then management action will be taken to remedy the problem in the area of the allotment that key area represents. The average (mean) utilization on key species will be estimated at each key area and used to determine if the guidelines have been met. There are indications that the median may be a better statistic to use than the mean; we will calculate both statistics from the same data sets and make a determination on which statistic to use after examining the data over a period of a few years. See Appendix 20 of the FEIS for further discussion on this issue.

For allotments not meeting or making significant progress toward meeting the standards (and for which lower utilization levels of perennial upland species would be expected to help move these allotments toward the standards), utilization data already in hand will be used to determine whether a management change is necessary. Thus, for example, if utilization on a particular key area has exceeded the thresholds of Table A for the two years previous to the approval of these standards and guidelines, a management change will be implemented prior to the first grazing year following this approval. In addition to implementing management changes that are expected to bring utilization levels within threshold values, close monitoring will follow to ensure that the grazing use levels are not exceeded during the grazing period following the management changes. If utilization levels are exceeded or expected to be exceeded during this period, a reduction or curtailment of further grazing in the area represented by the key area will be required for the remainder of the grazing season. In addition, further management changes will be implemented prior to the start of the next grazing season to bring utilization levels within thresholds.

Guideline 6: Implement grazing systems that permit existing native species to complete entire life cycles and sustain the spatial distribution of microsites necessary for seed germination at intervals sufficient to maintain the viability of the species.

Guideline 7: Use grazing systems that are compatible with the persistence of desired species. Grazing use should provide appropriate levels of plant matter that will promote the existence of desirable plants and animals.

Guideline 8: Native species are recommended for all revegetation and enhancement projects unless they are not readily available in sufficient quantities or are incapable of maintaining or achieving properly functioning conditions and biological health.

Guideline 9: Within identified deer concentration areas there will be no more than 20 percent utilization of annual growth on key browse species prior to October 1.

Guideline 10: Periods of rest from livestock grazing or other avoidable disturbances should be provided during/after episodic events (e.g., flood, fire, drought) and during critical times of plant growth needed to achieve proper functioning conditions, recovery of vegetation, or desired plant community.

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Guideline 11: Grazing management practices will allow for the reproduction of species that will maintain riparian-wetland functions, including energy dissipation, sediment capture, groundwater recharge, streambank stability, the hydrologic cycle, nutrient cycle, and energy flow.

Guideline 12: Grazing practice should maintain a minimum herbage stubble height on all stream-side, riparian and wetland areas at the end of the growing season. There should be sufficient residual stubble or regrowth at the end of the growing season to meet the requirements of plant vigor maintenance, bank protection, and sediment entrapment (Table A).

Management changes will be implemented (e.g., reductions in stocking rate or another management change) if stubble heights on the average of the key riparian areas across the pasture (or allotment if there is only one pasture) fall below the guidelines for 2 consecutive years or in any 2 years out of every 5 years. In addition, at least 70% of riparian key areas on the allotment are to exceed minimum stubble heights in most years. If any particular key area fails to meet the guidelines for more than 2 consecutive years, then management action will be taken to remedy the problem in the area of the allotment that key area represents. Because stream banks may be inadequately protected by heavy use in any one year and because stubble heights below 3 inches result in cattle shifting their preference to shrubs, stubble heights below 2 inches in any one year will require a management change in the following year.

The mean stubble height on key riparian species will be estimated at each riparian key area and used to determine if the guidelines have been met. There are indications that the median may be a better statistic to use than the mean; we will calculate both statistics from the same data sets and make a determination on which statistic to use after examining the data over a period of a few years. See Appendix 20 of the Final EIS for further discussion on this issue.

For allotments not meeting or making significant progress toward meeting the standards (and for which higher stubble would be expected to help move these allotments toward the standards), stubble height data already in hand will be used to determine whether a management change is necessary. Thus, for example, if stubble heights on a particular key area have fallen below the thresholds of Table A for the two years previous to the approval of these standards and guidelines, a management change will be implemented prior to the first grazing year following this approval. In addition to implementing management changes that are expected to bring stubble heights within threshold values, close monitoring will follow to ensure the grazing use levels are not exceeded during the grazing period following the management changes. If utilization levels are exceeded or expected to be exceeded during this period, a reduction or curtailment of further grazing in the area represented by the key area will be required for the remainder of the grazing season. In addition, further management changes will be implemented prior to the start of the next grazing season to bring utilization levels within thresholds.

Guideline 13: Water sources, wetlands and riparian areas may be fenced to reduce impacts from livestock.

Guideline 14: The development of water sources will maintain ecologic and hydrologic function and processes.

Guideline 15: Locate salt blocks and other supplemental feed well away from riparian/wetland areas.

Guideline 16: Locate new livestock handling and/or management facilities outside of riparian/wetland areas. For existing livestock handling facilities inside riparian areas, ensure that facilities do not prevent attainment of standards. Limit livestock trailing, bedding, watering, loading, and other handling efforts to those areas and times that will not retard or prevent attainment of standards.

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Table A: Forage Utilization and Mulch Management Requirements

Precipitation	Plant Community	Slope, Elevation	Minimum Residual Dry Matter* (lbs/ac)	Maximum Utilization of Key Perennials, #, ##
4-10 Inches	California annual grassland	<25% 25-45% >45%	200 250 350	25-40%
10-40 Inches	California annual grassland, Oak woodlands	<25% 25-45% >45% <15%, 1000-2500' >15%, >2500'	400 600 800 700-900** 1000-1200**	30-45%
8-30 Inches	Sagebrush grassland, semi-desert grass and shrubland, Pinyon-juniper woodland, Cool season pasture	NA	NA	30-40%
	Coniferous forest, mountain shrubland	NA	NA	30-40%
	Alpine tundra	NA	NA	20-30%
	Salt Desert Shrubland	NA	NA	25-35%
4-40 Inches	Riparian areas, wetlands	NA	4-6 inch stubble height #	35-45% herbs, 10-20% shrubs, 0-20% trees

* Minimum to be present at fall/winter green-up.

** Higher minimum is for sites that are: in unsatisfactory condition, grazed during active growth, not rested, or on steeper slopes.

\# Stubble height and percent utilization levels are initial values that should be adjusted to consider timing of grazing use and plant phenology, resource conditions and a site's resiliency at the allotment, pasture or site-specific location.

Perennial plant utilization levels and stubble heights are based on a literature review by Holechek (1988, 1991), Holechek et al. (1998) and Willoughby (see the Annotated Bibliography on Utilization in the FEIS).

On sites in unsatisfactory condition and/or trend, perennial plant utilization should be no more than 15-25% current annual growth where less than one period of rest is provided per growing season of use.

Guideline 17: Implement grazing systems that will promote compliance with the Water Quality Standards.

d. Apply the management practices recognized and approved by the State of California as Best Management Practices (BMPs) for grazing related activities to protect and maintain water quality.

e. In watersheds draining into water bodies that have been listed or are proposed for listing as having threatened or impaired beneficial uses, and where grazing activities may contribute to the pollutants causing such impairment, the management objective is to fully protect, enhance, and restore the beneficial uses of the water.

Guideline 18: The plan for grazing on any allotment must consider other uses (recreation, wildlife, mineral resource development, etc.) and be coordinated with other users of the public lands so that overall use does not detract from the goal of achieving rangeland health.

4. IMPLEMENTATION

BLM will fully implement the grazing standards and guidelines as directed in the rulemaking. The rule states that, "The authorized officer shall take appropriate action as soon as practicable but not later than the start of the next grazing year upon determining that grazing practices or levels of grazing use on public lands are significant factors in failing to achieve the standards and conform to the guidelines...."(43 CFR 4180.2(c)).

Determination of the "appropriate action," and the actual scheduling of the implementation, will be the responsibility of the local Field Managers. However, it will be done using the priority system described in Appendix 1.

5. ASSESSMENTS and MONITORING

Field Offices will conduct assessments of all allotments according to the priority described in Appendix 1. All allotments will be assessed within five years of the approval of these Standards and Guidelines by the Secretary of the Interior. These assessments will be done using an interdisciplinary approach, and the findings and reasons for the findings will be documented. The format and content of this documentation will be left to the discretion of the individual Field Manager. (Examples are in the Final EIS.)

Field Offices will monitor allotments according to the priority described in Appendix 1. The monitoring will be done using an interdisciplinary approach, using methods described in Appendix 2.

Rangeland health conditions will be reported annually for each grazing allotment. This information will include the determinations of rangeland health conditions through assessments and monitoring and the progress made towards meeting rangeland health standards. Specifically, for each allotment an identification will be made of what standards, if any, are not met or where significant progress is not being made toward meeting the standard; etc.; what progress has been made regarding determining and implementing needed management changes; and the results of making the management changes as determined from monitoring information. Additionally, any changes in the management categories of the allotments will be identified and an explanation of the reasons for the change will be made.

The above information will be gathered at the Field Office which administers the respective allotment(s). A summary of this information will be consolidated for all of the allotments in the state (exclusive of the California Desert District) and made available to the public annually.

6. PUBLIC INVOLVEMENT and RESPONSE to PROTESTS

BLM has had extensive public involvement throughout the process of developing the Standards and Guidelines. Early phases of this involvement were described in the Draft EIS, and in Chapter 5 of the Final EIS. Further, we have consulted extensively with the three Resource Advisory Councils(RAC) on content and wording of the Standards and Guidelines.

As stated in the Final EIS, "following the comment period on the draft EIS, the RAC members were sent copies of all of the comment letters. The RACs discussed the comments and the draft EIS in their meetings. Representatives of the three RACs then met with BLM staff in a workshop setting and made recommendations for modification of their original proposals."

Comments made by the public following the Draft EIS were individually analyzed by BLM, and responded to in the Final EIS. The Proposed Action (Alternative 5) in the Final EIS was based upon the original RAC proposals, with changes suggested by the RACs and by BLM, based upon analysis of the public comments. There were several meetings with the Susanville RAC and other interested parties prior to issuing the Final EIS because there were items in the Standards and Guidelines that caused concern to RAC members and ranchers in NE California and NW Nevada.

Following release of the Final EIS, BLM received 5 protests, two of which applied to Central California. The major concerns were that there were changes made in the Final EIS that the public had not been allowed to review in the Draft; that a protestor did not like the water quality guidelines; that there was no "no grazing" alternative; and, that the Bureau does not have enough staff to implement the Standards and Guidelines.

As a result of these protests, BLM has added some language to this ROD to clarify how the standards and guidelines will be implemented. However, no substantive changes have been made to the Central California Standards and Guidelines from that contained in the Final EIS. Based on the clarification language, three of the protestors subsequently withdrew their protests. The remaining two protests were dismissed by the Director of BLM, who sent letters to the two protestors explaining the reasons for the dismissals.

APPENDIX 1: IMPLEMENTATION

The fallback standards (43 CFR 4180.2(f)(1)) have been in effect in since August 12, 1997. An initial screening of allotments was made, based on existing information, to determine the status of each allotment with respect to meeting the fallback standards. Each allotment was placed into one of four categories as follows:

Category 1: Areas where one or more standards are not being met, or significant progress is not being made toward meeting the standards(s), and livestock grazing is a significant contributor to the problem.

Category 2: Areas where all standards are being met, or significant progress is being made toward meeting the standard(s).

Category 3: Areas where the status for one or more standards is not known, or the cause of the failure to not meet the standard(s) is not known.

Category 4: Allotments where one or more of the standards are not being met or significant progress is not being made toward meeting the standards due to causes other than (or in addition to) livestock grazing activities. (Those allotments where current livestock grazing is also a cause for not meeting the standards are included in Category 1 in addition to this category.) The authorized officer should take appropriate action based on regulation or policy; however, these actions not related to livestock grazing are outside the scope of this implementation plan and will not be addressed in this document.

An assumption has been made by the BLM field managers that, with few possible exceptions, the implementation needed for the regulatory fallback standards and guidelines will essentially be the same as for any anticipated set of final approved standards and guidelines implemented pursuant to this Record of Decision (ROD). Consequently, the categorization of allotments under the standards in this ROD is likely to be the same as the categorization under the fallback standards and guidelines. Existing allotment assessments and their resulting determinations as to category will be reviewed to ensure the determination is correct under the standards set in place by this ROD.

New allotment assessments, reviews of existing allotment assessments, and determination of allotment category will be conducted in full consultation, coordination, and cooperation with permittees and other interests.

We intend to conduct assessments on all allotments within the next 5 years. First priority for these allotment assessments will be given to those allotments where we already know or suspect one or more of the standards is not being met. These include those allotments placed in Category 1 under the fallback standards and those allotments currently in Category 3 that we have reason to believe may not be meeting standards. After these allotments have been assessed, the remaining allotments will be assessed using the BLM I, M, and C priority management system, with first priority to I, second to M, and last to C.

For those allotments where the standards are not being met (Category 1), management actions will be implemented to correct the situation prior to the next grazing season turn-out period for the allotment. The management options will be determined in full coordination, consultation, and cooperation with permittees and other interests.

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Monitoring will be conducted to evaluate the progress towards improving rangeland health and to evaluate the success of the specific management measures applied.

APPLICATION OF GUIDELINES

Once the guidelines are approved by the Secretary of the Interior, they will be applicable to the management of livestock grazing on all allotments not meeting the health standards. Some guidelines will be applicable regardless of the specific rangeland health condition, as they are designed to help protect and sustain rangeland health and are not intended to be applied only to remedy problems. Many of the guidelines will need to be more specifically identified and then applied as terms and conditions of a permit or lease, based upon the specific needs for meeting rangeland health standards. There will be instances where specific terms and conditions will be applied to grazing use authorizations for reasons other than those directly related to rangeland health, such as to accommodate other resource needs and land uses or to meet administrative requirements. Examples of this may include protecting cultural resource sites, requiring a specific breed of livestock to be used that is compatible with the needs of other permittees or lessees using the same allotment, or for meeting various regulatory requirements for grazing administration purposes. In some instances, existing terms and conditions will be carried over from previously made plans and commitments, such as those identified in allotment management plans or coordinated management plans. In these instances, the terms and conditions may or may not be related to rangeland health needs.

Any terms or conditions specified for a permit or lease must be consistent with and support appropriate BLM land use plans or other land use plans applicable to the public lands. BLM will also adhere to requirements such as those identified as terms or conditions from a biological opinion for protecting the habitat of a plant or animal under the Endangered Species Act.

Terms and conditions will be applied to grazing permits, leases, or other grazing authorizations as the authorized officer (Field Manager) determines the need. The determination of what terms and conditions will be applied will be made in consultation with the respective permittees/lessees and other interested parties involved in the particular allotment. The same process will be used for making needed changes to any existing terms and conditions. Information from assessments and evaluations of monitoring data will be used to determine the management changes needed. Management options that would be expected to move allotments toward meeting the standards will be determined in full coordination, consultation, and cooperation with permittees/lessees and other interested parties.

Alternative management changes will be considered and evaluated through the NEPA process prior to making final determinations. It is anticipated that in most instances, the terms and conditions will be identified cooperatively and be agreed upon by the affected permittee/lessee and all interested parties. Where an agreement cannot be reached, then a formal decision (which is appealable) will be issued.

If reductions in permitted use are necessary to achieve the standards or meet the guidelines, the animal unit months (AUMs) by which the permitted use is reduced will be held in suspension. Once the authorized officer determines that rangeland health has recovered to an extent that all or part of the suspended permitted use can be restored, this suspended permitted use shall first be apportioned in satisfaction of suspended permitted use to the permittee(s) or lessee(s) authorized to graze in the allotment in which the forage is available (this is in accordance with 43 CFR 4110.3-1(b)).

REPORTING PROGRESS IN RANGELAND HEALTH ACHIEVEMENTS

Rangeland health conditions will be reported annually for each grazing allotment. This information will include the determinations of rangeland health conditions through assessments and monitoring and the progress made towards meeting rangeland health standards. At a minimum the report will identify, by allotment: (1) what standards, if any, are not being met; (2) whether significant progress is being made toward meeting those standards that are not currently being met; (3) the magnitude of those standards not being met, in terms such as acres, miles of stream, number of sites, etc.; (4) the progress that has been made in determining and implementing needed management changes; and (5) the results of making the management changes as determined from monitoring and assessment information. Additionally, any changes in the management categories of the allotments will be identified, accompanied by an explanation of the reasons for the change.

The above information will be gathered at the field office which administers the respective allotment(s). A summary of this information will be consolidated for all of the allotments within the EIS area and made available to the public annually.

Tables were provided in the Final EIS that showed all allotments in the State and the category to which they were assigned in 1997. Since that list was compiled, management changes have been implemented and additional assessment and monitoring work has been completed that makes those lists obsolete. When the annual report is compiled each year, an updated list of all allotments, by category, will be provided as part of the report.

Throughout all processes the public is encouraged to participate in the identification of rangeland health conditions, developing management remedies, monitoring results, and reviewing progress towards achieving rangeland health standards.

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APPENDIX 2: ASSESSMENT AND MONITORING

Assessment to Determine if Allotments are Meeting Standards

"Assessment" means the analysis, synthesis, and interpretation of information, including monitoring data, to characterize the health of an allotment or other management unit. Gathering new information in the field may be necessary as part of the assessment process. "Monitoring" means the periodic gathering of information.

In some cases, quantitative monitoring data, gathered over a period of years, may be essential to determine whether an area meets the standards and whether livestock grazing is a significant factor contributing to a failure to meet the standards. However, quantitative monitoring data is not always required to make these determinations nor to implement actions to improve grazing management. The preamble to the 1995 grazing regulations (BLM 1995) states that managers may "use a variety of information, including monitoring records, assessments, and knowledge of the locale." The 1995 regulations also require the manager to "reduce permitted grazing use or otherwise modify management practices...when monitoring or field observations show grazing use or patterns of use are not consistent with the provisions of 43 CFR subpart 4180" (43 CFR 4110.3-2(b); subpart 4180 includes the standards and guidelines). Changes in permitted use are to be "...supported by monitoring, field observation, ecological site inventory, or other data acceptable to the authorized officer." Therefore, actions needed to improve grazing management in order to comply with guidelines or meet standards should not be delayed solely because monitoring data are lacking. Rangelands will not be allowed to deteriorate while prolonged monitoring studies are conducted, when reliable indicators of rangeland health demonstrate a need for corrective action.

Assessments should employ the minimum information needed to determine whether the standards are being met and whether livestock grazing is a significant factor in failing to meet the standards. All resource information or data collected should be tied directly to the standards, guidelines, or resource objectives.

Field Offices will conduct assessments of all allotments according to the priority described in Appendix 1. These assessments will be done using an interdisciplinary approach, and the findings and reasons for the findings will be documented. The format and content of this documentation will be left up to individual Field Managers, but the form used by the Eagle Lake Field Office (Appendix 24 in the Final EIS) is one example of the type of documentation that could be employed.

The term "assessment," when used by itself, has the meaning described above; that is, it considers all available information, whether from inventory, monitoring, or qualitative assessments. "Qualitative assessment" refers to a particular method used to rapidly assess whether allotments or areas within allotments are meeting standards. The Proper Functioning Condition (PFC) procedure is the qualitative assessment method that is applied to riparian/wetland areas (BLM 1993b and 1994). The Qualitative Procedure to Assess Rangeland Health (Appendix 25 in the Final EIS) is the qualitative method that will be applied to upland rangelands. The use of these procedures, and their relationship to monitoring, will be discussed in more detail below.

Application of Traditional Rangeland Monitoring to Assessing Whether Standards are Being Met

Many rangeland monitoring studies have been in place and read on a regular basis by BLM personnel in California for many years. These studies involve using qualitative or quantitative procedures, or both, and often are directed at determining the condition and trend of key species in key areas. The basic types of studies, as well as the use of the key species and key area approach, are described in Chapter 3, Section 3.2.5, of the Final EIS. The purpose of these studies has primarily been to determine if management objectives relative to particular grazing allotments are being met or if the trend is toward meeting these objectives. For example, a management objective might be to increase the frequency of a key species such as squirreltail (*Elymus elymoides* ssp. *elymoides*) by 10% in Pasture A of Allotment Z in 5 years. Some method of frequency monitoring is then set up in one or more key areas in Pasture A and read on a regular basis (this could be annually but might be once every five years; in this example the frequency of monitoring would have to be at least every five years). In another example, the objective might be to increase the basal cover of the key species bluebunch wheatgrass (*Pseudoregneria spicata* ssp. *spicata*) in Pasture B of Allotment X by 5 percent over the next 6 years. A method of monitoring that measures cover is then set up in one or more key areas of Pasture B and read on a regular basis (this could be annually or on some other schedule, but must be at least every 6 years).

Management objectives have not always been directed at key species. Objectives to increase the total vegetation cover on particular pastures or allotments have also been applied, as well as objectives to decrease the cover of shrubs or trees. In both of these examples, monitoring methods are chosen that measure or estimate cover. These methods might be quantitative in nature or qualitative; the latter might involve taking photographs, either on the ground or aerially.

A second monitoring objective of traditional rangeland monitoring has been to determine the "condition and trend" of rangelands. The condition is determined by comparing the current species composition and production of a given ecological site to the species composition and production of the potential natural community of that site (see Chapter 3, Section 3.3.3 in the Final EIS for a more complete description of the process). Trend is recorded as upward, downward, or static, based on whether species composition and production are moving toward, away, or not at all, respectively, from the potential natural community. Ecological site inventory (ESI) is used to determine condition at any one point in time. A second ESI can then be used to determine trend; other monitoring studies, however, can also be used for this purpose, if they yield information on species composition.

Although much of the monitoring currently being conducted will have applicability to determining the effectiveness of implementation of the rangeland standards, some old methods will have to be modified and new methods introduced. This is because the standards require monitoring of certain rangeland attributes that are not assessed under current methodology.

Table 1 is a list of rangeland attributes that may be assessed in order to determine whether standards are being met.

Table 1. List of rangeland attributes that may be assessed in order to determine whether standards are being met, along with the actual wording of the indicator(s) to which each attribute applies (parentheses following each indicator show the standard to which it applies). Several indicators apply to more than one attribute and therefore are listed under each of the appropriate attributes.

7. Ground cover
    a. "Vegetation and other types of ground cover such as rock" (Soils)
    b. "Spatial distribution and cover of plant species and their habitats allows for reproduction and recovery from localized catastrophic events" (Species)
    c. "Vegetation cover is greater than 80% or the percentage that will protect banks and dissipate energy during high flows" (Riparian)
    d. "There is minimal cover of invader/shallow-rooted species" (Riparian)
    e. "Point bars are vegetated" (Riparian)

8. Litter/residual dry matter
    a. "Litter/residual dry matter is evident, in sufficient amounts to protect the soil surface" (Soils)
    b. "Adequate organic matter (litter and standing dead plant material) is present for site protection and decomposition to replenish soil nutrients" (Species)
    c. "Adequate organic matter (litter and standing dead plant material) is present to protect the site and to replenish soil nutrients through decomposition" (Riparian)

9. Plant species diversity
    a. "A diversity of plant species, with a variety of root depths, is present and plants are vigorous during the growing season" (Soils)
    b. "A diversity of plant species with various phenological stages and rooting depths is present on sites where appropriate" (Species)
    c. "Where appropriate, species composition contributes to the desired plant community objectives" (Species)
    d. "A diversity of plant species with various phenological stages and rooting depths is present." (Riparian)
    e. "Plant species present indicate that soil moisture characteristics are being maintained" (Riparian)

10. Plant vigor
    a. "A diversity of plant species, with a variety of root depths, is present and plants are vigorous during the growing season" (Soils)
    b. "Plant vigor is adequate to maintain desirable plants and ensure reproduction and recruitment of plants when favorable climatic events occur" (Species)

Table 1, continued

11. Soil crusts
    a. "Biological (microphytic or cryptogamic) soil crusts are in place where appropriate" (Soils)
    b. "Where appropriate, biological soil crusts (also called microphytic or cryptogamic soil crusts) are present and not excessively fragmented" (Species)

12. Plant structure
    a. "A variety of age classes are present for most perennial plant species" (Species)
    b. "Age-class and structure of woody/riparian vegetation is diverse and appropriate for the site" (Riparian)
    c. "Wildlife habitats include seral stages, vegetation structure, and patch size to promote diverse and viable wildlife populations" (Species)

13. Spatial distribution of plants and their habitats
    a. "Spatial distribution and cover of plant species and their habitats allows for reproduction and recovery from localized catastrophic events" (Species)
    b. "Wildlife habitats include seral stages, vegetation structure, and patch size to promote diverse and viable wildlife populations" (Species)

14. Natural disturbances
    "Appropriate natural disturbances are evident." (Species)

15. Non-native plants and animals, including noxious and invasive species
    "Levels of non-native plants and animals are at acceptable levels" (Species)

16. Special status species
    "Special status species are healthy and in numbers that appear to ensure stable to increasing populations; habitat areas are large enough to support viable populations or are connected adequately with other similar habitat areas" (Species)

17. Tree and shrub canopy cover
    "Where appropriate, shading is sufficient to provide adequate thermal regulation for fish and other riparian dependent species" (Riparian)

18. Woody debris
    "Where appropriate, there is adequate woody debris" (Riparian)

19. Root masses
    "Root masses are sufficient to stabilize stream banks and shorelines" (Riparian)

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Table 1, continued

20. Streambank stability
"Streambank stability, pool frequency, substrate sediments, stream width, and bank angles are appropriate for the stream type (using Rosgen's Streambank Classification System)" (Riparian)

21. Pool frequency
"Streambank stability, pool frequency, substrate sediments, stream width, and bank angles are appropriate for the stream type (using Rosgen's Streambank Classification System)" (Riparian)

22. Substrate sediments
"Streambank stability, pool frequency, substrate sediments, stream width, and bank angles are appropriate for the stream type (using Rosgen's Streambank Classification System)" (Riparian)

23. Stream width/depth
"Streambank stability, pool frequency, substrate sediments, stream width, and bank angles are appropriate for the stream type (using Rosgen's Streambank Classification System)" (Riparian)

24. Bank angles
"Streambank stability, pool frequency, substrate sediments, stream width, and bank angles are appropriate for the stream type (using Rosgen's Streambank Classification System)" (Riparian)

25. Chemical constituents of water
"The following do not exceed the applicable requirements: chemical constituents, water temperature, nutrient loads, fecal coliform, turbidity, suspended sediment, and dissolved oxygen" (Water Quality)

26. Water temperature
a. "The following do not exceed the applicable requirements: chemical constituents, water temperature, nutrient loads, fecal coliform, turbidity, suspended sediment, and dissolved oxygen" (Water Quality)
b. "Where appropriate, shading is sufficient to provide adequate thermal regulation for fish and other riparian dependent species" (Riparian)

27. Nutrient loading
"The following do not exceed the applicable requirements: chemical constituents, water temperature, nutrient loads, fecal coliform, turbidity, suspended sediment, and dissolved oxygen" (Water Quality)

Table 1, continued

28. Fecal coliform
"The following do not exceed the applicable requirements: chemical constituents, water temperature, nutrient loads, fecal coliform, turbidity, suspended sediment, and dissolved oxygen" (Water Quality)

29. Turbidity
"The following do not exceed the applicable requirements: chemical constituents, water temperature, nutrient loads, fecal coliform, turbidity, suspended sediment, and dissolved oxygen" (Water Quality)

30. Suspended sediment
"The following do not exceed the applicable requirements: chemical constituents, water temperature, nutrient loads, fecal coliform, turbidity, suspended sediment, and dissolved oxygen" (Water Quality)

31. Dissolved oxygen
"The following do not exceed the applicable requirements: chemical constituents, water temperature, nutrient loads, fecal coliform, turbidity, suspended sediment, and dissolved oxygen" (Water Quality)

32. Aquatic and riparian organisms
"Aquatic organisms and plants (e.g., macroinvertebrates, fish, algae, and plants) indicate support for beneficial uses" (Water Quality)

33. Soil erosion
"There is minimal evidence of accelerated erosion in the form of rills, gullies, pedestaling of plants or rocks, flow patterns, physical soil crusts/surface sealing, or compaction layers below the soil surface" (Soils)

Monitoring of Vegetation and Physical Attributes

Vegetation monitoring (including soil crusts). Table A.22.2 in the Final EIS lists the trend monitoring methods currently in use or described in the Interagency Technical Reference, Sampling Vegetation Attributes (BLM et al. 1996a) and the plant and vegetation attributes they measure. Of the attributes listed in Table 1 in this appendix, the following can be monitored using a combination of the methods from the technical reference:

- Ground cover
- Litter/residual dry matter
- Plant species diversity
- Plant vigor
- Soil crusts
- Plant structure
- Spatial distribution of plants and their habitats

- Natural disturbances (although not specifically identified by a column heading on Table A.22.2, these can be tracked under the heading "spatial distribution")
- Non-native plants (these can be monitored by measuring or estimating density, frequency, or cover)
- Special status plants (these can be monitored by measuring or estimating density, frequency, or cover)
- Tree and shrub canopy cover

Note, however, that in some cases these attributes are not measured or estimated as part of the standard procedure. For example, the typical way in which the Daubenmire method (which estimates canopy cover in either 6 or 10 categories in a series of plots) is used yields measurements of the cover of bare ground, vegetation, litter, gravel/rock, as well as frequency and species composition. Other attributes, such as the cover of biological, physical, and chemical crusts, cryptogams, production, and vigor *can* be incorporated into the standard procedure with proper planning.

Monitoring of Guidelines Associated with Utilization, Residue, and Stubble Heights. For the reasons given in Section 3.2.5 in the Final EIS, it is important to set and monitor guidelines on utilization levels, minimum residues, and minimum stubble heights. Existing monitoring of utilization, residue, and stubble heights will continue, and new studies will be established as needed. On upland perennial rangelands not meeting the standards, utilization will be measured on key species in key areas, with the average (mean) utilization used to assess whether the portion of the allotment or pasture represented by the key area is meeting the utilization guideline (there are indications that the median may be a better statistic to use than the mean; we will calculate both statistics from the same data sets and make this determination after examining the data over a period of a few years). We recognize that residue, in terms of stubble height and litter, is a better measure of utilization in upland perennial grass communities than percent utilization, but we do not have sufficient information at this time to develop guidelines that use these attributes. We intend to investigate this matter further, however, as time and funding permit, and to eventually replace the utilization guidelines on perennial uplands (which specify percent of key species removed) with guidelines specifying minimum amounts of residue to be left. A very preliminary study proposal is given in Table 2.

Table 2. Preliminary Study Proposal: Developing Residue and Stubble Height Guidelines for Major Vegetation Types in the Great Basin

Objective: Develop upland residue and stubble height guidelines for the major vegetation types in the Great Basin

• Conduct a literature review.

This review would look at material published in peer-reviewed publications and "gray" literature as well as information collected by field offices. In addition, range scientists at universities and in other agencies (e.g., NRCS, ARS, Forest Service) would be interviewed.

• Conduct the following study.

A study would be conducted to fill in the gaps in information that are expected to exist following the literature review. Over a period of several years the residue left following known levels of utilization will be measured at several sites in different vegetation types. This will entail measuring total above ground production in ungrazed areas (using either cages or exclosures), measuring utilization after the grazing season on key species, and measuring the amount of standing and fallen dead plant material (separately) at that level of use. The stubble heights of key species will also be measured, both in grazed and ungrazed condition. Photographs will be taken both of the key species and the landscape, both in grazed and ungrazed areas. As much as possible, sites should be selected that are close to existing weather stations (NOAA, RAWS stations, etc.) so the total production can be related to the amount of precipitation received.

The study should be conducted over several years in order to show a range of residue, stubble heights, and utilization levels as related to different amounts of precipitation. This study should enable field personnel to develop either State or regional guidelines on the appropriate residue and stubble height levels that should be left following grazing.

Following is a list of the utilization and residue studies from the Interagency Technical Reference, *Utilization Studies and Residual Measurements* (BLM et al. 1996b) that may be applied to public lands within the EIS area:

Browse Utilization Methods:
- Twig Length Measurement Method
- Cole Browse Method
- Extensive Browse Method

Residue Measuring Methods
- Stubble Height Method
- Visual Obstruction Method
- Comparative Yield Method

Herbaceous Utilization Methods
- Paired Plot Method
- Ocular Estimate

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- Key Species Method
- Height-Weight Method
- Actual Weight Method
- Grazed-Class Method
- Landscape Appearance Method

Exact methods to be used to monitor utilization, residue, and stubble heights will be determined by the Field Offices.

The above utilization and residue monitoring studies are usually applied to key areas (see the glossary in the Final EIS for a definition of key area and the discussion of key areas in Chapter 3, Section 3.2.5 of the Final EIS). Utilization pattern mapping is another important monitoring tool. This method entails canvassing the entire allotment or individual pasture and mapping the area into several classes based on the level of utilization (e.g., no use, light use, moderate use, and heavy use) on key species (see Chapter 3, Section 3.2.5 for more information). These studies will continue where necessary.

Actual use monitoring. Actual use studies (BLM 1984) are another form of traditional range monitoring that will continue. These studies track the actual use made by livestock in pastures and/or allotments based on the numbers of livestock and the length of time livestock are present. These numbers are usually provided by lessees/permittees but are sometimes also estimated from counts by BLM professionals. The actual use made by other herbivores such as wild horses and burros and wildlife is often estimated as well. These data are important in determining what changes should be made when objectives and standards are not being met.

Climate monitoring. It is important to consider climate when interpreting monitoring data. Climate monitoring most often consists of compiling precipitation and temperature information collected by the National Oceanic and Atmospheric Administration at the many weather stations in the EIS area. In some cases, precipitation data are collected through the placement of rain gauges in allotments. Additionally, both temperature and precipitation data are collected from 14 Remote Automated Weather Stations (RAWS) within the EIS area.

Riparian-wetland monitoring. The vegetation attributes of riparian-wetland areas are monitored using one or more of the techniques described in Table A.22.2 in the Final EIS. The Greenline Riparian-Wetland Monitoring Method (BLM 1993a) is also used by some field offices. The following physical attributes are also monitored on some riparian-wetland areas:

- Bankfull discharge
- Sinuosity
- Riparian zone width
- Floodplain and channel characteristics (i.e., rocks, overflow channels, coarse and/or large woody debris)
- Width/depth ratio

Use of Qualitative Assessments to Determine if Standards are Being Met

As noted above, traditional range monitoring studies can help assess whether standards are being met. The standards, however, call for the assessment of indicators that are not addressed by these traditional monitoring studies. Where the status of these indicators cannot be inferred from existing monitoring information, other monitoring or assessment methods must be employed. The following qualitative

assessment procedures were developed to rapidly assess all the physical and biological components of rangeland health.

Qualitative Upland Assessment. For uplands, the qualitative assessment method will be used. Although a technical reference has not yet been finalized on the method, a draft has been prepared and field tested. The details were given in Appendix 25 in the Final EIS. Field Offices may adapt this method as necessary to meet local needs. The results of the qualitative assessment will be used in conjunction with all other available information to determine if an allotment is meeting the standards. If it is not, and does not appear to be making significant progress toward meeting the standards, and grazing has been determined to be a significant factor, changes will be made to the management of livestock grazing. To assess whether these management changes are effective in moving toward meeting the standards, monitoring will be initiated (or, if already being conducted, will be continued) that is directed toward those indicators that caused the allotment to not meet the standards. For example, if the qualitative assessment indicates that insufficient litter is present, subsequent monitoring will focus on measuring the amount of litter (either the cover of litter or the amount in weight of litter).

Qualitative Riparian/Wetland Assessment. A qualitative procedure, called proper function condition (PFC) assessment (see Appendix 23 of the Final EIS), is already in place to help assess whether riparian and wetland areas are meeting the standards (BLM 1993b and 1994). This PFC assessment has already been applied to many riparian/wetland areas within the EIS area. Its use will be continued. Just as with the upland qualitative assessment procedure, when the PFC results in one or more indicators being responsible for an allotment not meeting the standards, subsequent monitoring will focus on those indicators. For example, if the width/depth ratio is the main reason a stream is determined to be not meeting the standard of proper functioning condition, subsequent monitoring would focus on the width/depth ratio of the stream.

Wildlife Monitoring for Rangeland Health

The standards for rangeland health include a "species" standard. They also include several indicators of animal habitats and populations that are attributes of a healthy rangeland ecosystem. These indicators can be divided into those related to habitat, and those related to animal populations. The habitat indicators include habitat seral stages, vegetation structure and patch size, spatial distribution of habitats, habitat size, how habitats are connected, and the habitat's ability to support viable populations. The animal population indicators include the spatial distribution of animals, special status species numbers, stable to increasing populations, viable populations, and levels of non-native animals.

The BLM recognizes that determining the biodiversity health for each allotment is an impossible task involving the gathering of species-specific data at many locations and scales. However, a more achievable option is to design monitoring programs that evaluate ecosystem components, structures and processes as indicators of a habitat's *capability* to support healthy animal communities. We would then rely on focused studies to more directly monitor species of management concern.

There are different scales of monitoring and management to evaluate the relationships between habitat management from livestock grazing and animal populations. It is critical to evaluate the assumptions that habitat management at the allotment (or pasture) level will actually affect animal presence and abundance at the monitoring site(s). It is necessary to determine the appropriate scale of monitoring: coarse scale regional monitoring of several allotments for some animal community indicators; fine scale monitoring at the allotment level for some special status, game animals, and keystone species; and site-specific scale for some special status species and ecosystem health indicators that are restricted to very small habitat areas. Monitoring plans should consider these issues of scale when designing allotment monitoring programs.

Habitat mapping and vegetation monitoring would usually suffice to evaluate whether the allotments are providing *adequate opportunities* for wildlife communities in meeting the standards. Spot checking for selected species at the appropriate habitats over several allotments would evaluate rangeland health for many species. At a finer scale of analysis, population censuses at the allotment scale may be needed to determine if the standards are being met. This finer scale monitoring would be directed at special status animals or at species with a very restricted habitat requirement as a rangeland health indicator.

Most allotment monitoring will evaluate the habitat capability for species of management concern. Vegetation characteristics of habitat structure (for example, ground cover, vertical layering, form of trees and shrubs), plant composition, age structure of plants (young, reproducing, old, or decadent trees or shrubs), plant vigor, and the distribution of plant communities across the landscape will be the focus of BLM's monitoring.

Field assessments should emphasize the use of habitat quality checklists to identify significant problems at the appropriate scale (allotment or landscape levels). These checklists can be designed to evaluate habitat quality for a particular species, group of species, or general animal community composition. The elements of such a checklist are given in Table 3. More focused studies or monitoring protocols may be developed where habitat monitoring indicates standards are not being met and where management priority is high.

The BLM will consider existing information on soils, habitats, scientific literature, historic records, fire history, and disturbance regimes to assess habitat capability. When more detailed information regarding a particular species is required, wildlife information systems and species records may be used to conduct assessments of habitat quality for animals of management concern. The California Wildlife Habitat Relationships System (CWHR) and Habitat Evaluation Procedures (HEP) models may be used for these assessments. These models are based on the assumptions that through habitat assessments, habitat capability (quality) for a particular species or group of species can be determined. The California Natural Diversity Data Base will be used to help assess the significance of BLM actions on special status animal species and rare plant communities.

The rangeland health indicators for animal (wildlife) populations cannot be assessed separately for each species. Evaluating animal numbers and distributions for each species would require an extensive amount of monitoring of hundreds of animal species, a task far beyond the capability of the BLM and our State and private management partners. Instead, monitoring must be focused on a subset of animal "indicator" species that represent wildlife communities and populations in general as indicators of ecosystem health. While this method of monitoring has been criticized as flawed since each species has its own niche in the ecosystem that cannot be represented by another species, this approach gives the BLM the opportunity to focus wildlife monitoring within our capability. The indicator species may be threatened or endangered, game animals, species of regional or special concern, keystone species, abundant, or rare. The selection of the indicator species will depend on the allotment management objectives, land use plan objectives, and/or BLM commitments to regional plans. The monitoring of the indicator species may include general distribution or abundance surveys or more focused research to better evaluate the relationships between the animals and their habitats and grazing effects. In many cases, data collection may not be required within each allotment, but across the landscape in habitats with similar characteristics.

Table 3. Elements of a Biodiversity and Species Checklist for Wildlife.

Habitats

CWHR Habitats and seral stage(es) present:

Habitat composition and seral stages related to management objectives:
- Seral stages meet management objectives
- Plant community composition indicates good rangeland health
- Native species present at acceptable levels
- Non-native species at acceptable levels
- Invasive weeds at acceptable levels

Habitat structure related to management objectives:
- Plant cover is adequate, within natural range
- Plant height adequate: herbaceous shrub trees
- Plant density is adequate
- Plants distributed normally
- Ground cover is within normal range
- Age-class indicates community maintenance
- Form-class indicates normal growth characteristics

Distribution of Habitats across landscape:
- Patch size is adequate
- Fragmentation is not excessive
- Habitats are connected within site capability

Species

Management indicators selected:

Habitats meet requirements of indicator species:
- Elements are considered acceptable:
- Elements lacking:

Key management areas present:
- Listed species habitats
- Riparian
- Wetlands
- Seasonal ranges (winter, migratory, calving/fawning, etc)
- Breeding/nesting sites

Table 3. cont.

Focused Studies

Focused studies in progress:
Focused studies needed:

Evaluation:

Habitats are meeting management objectives

Habitats promote diverse and viable wildlife populations
Seral stages present Composition
Structure Distribution

Habitats can withstand catastrophic events (flood/fire/windstorm)

Species present indicate healthy ecosystem function

Habitats meeting species/diversity standards

Habitats not meeting species/diversity standards

Livestock grazing/management is (is not) significant factor

Management changes needed to meet standards

Water Quality Assessment and Monitoring

Most often, when riparian areas and wetlands are healthy, the quality of water for most beneficial uses meets standards. Many of the attributes assessed and monitored for riparian and wetland areas also affect the quality of the water, at least indirectly. There are exceptions, however, where this may not always be true, particularly with regard to the chemistry and physical properties of the water. Biological assessments and monitoring of aquatic organisms in water bodies serve to identify important attributes reflecting the quality of water for many beneficial uses and will be used when it is determined that the quality of the water may be in question.

In most situations BLM will depend upon the State and Regional water quality agencies to either identify, or assist BLM in identifying, where water quality is impaired or has a high probability of being impaired. For those areas where livestock grazing activities on public land are known to cause or are suspected of causing water quality impairment, BLM will closely coordinate with these agencies in obtaining any needed water quality monitoring and assessment information. Where sufficient information is not available, BLM will also closely coordinate with these agencies in the selection and design of the attributes to be assessed and monitored by BLM. Since the states have primary responsibility and primacy regarding the Clean Water Act and the Safe Drinking Water Act, it is important that any water quality assessment or monitoring information obtained by BLM meet the acceptance of those state agencies responsible for identifying the specific requirements of those Acts.

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Effectiveness Monitoring of Guidelines

Effectiveness monitoring is used to evaluate whether a particular activity, when carried out as planned, results in the desired effect (MacDonald et al. 1991). In the context of rangeland standards and guidelines, effectiveness monitoring will be used to evaluate whether guidelines, if followed, result in either meeting or making progress toward meeting the standards. This type of monitoring will be employed when the other types of monitoring and assessment discussed in this appendix determine that progress is not being made toward meeting standards despite compliance with guidelines. For example, a grazing system is implemented in order to move an allotment toward meeting standards, but after five years of monitoring no progress is detected. The management system will then be evaluated to determine why it is not producing the desired effects and changed accordingly. Utilization and stubble height guidelines provide another example. If, after several years of compliance with these guidelines, allotments are not moving toward meeting standards, these guidelines will be evaluated and supplanted by new ones as appropriate.

Application of New Technology to Monitor and Assess Rangeland Health

Traditional transect-based techniques for measuring vegetation and other indicators of rangeland health provide detailed information at a plot level. Care must be used when using plot-based measurements to characterize large areas because of problems in extrapolating information from small samples to large areas. Methods for assessing rangeland health at multiple scales are currently in their infancy. The use of remotely-sensed data, primarily satellite imagery, will hopefully become a rapid and inexpensive method for measuring rangeland health on larger areas.

One pilot effort recently initiated in the northeastern portion of the EIS area is a cooperative project between BLM, the National Resource Conservation Service, and the Forest Service's Pacific Northwest Experiment Station. It involves the transitioning from traditional Soil Surveys to Resource Surveys, which are multi-resource, map-based surveys of soil, vegetation, water, and wildlife characteristics. Part of the project will include development of a set of tools that will be designed to assess rangeland health at multiple scales and areal extent.

As new methodologies such as this one are developed, they will be applied to monitoring and assessing rangeland health standards within the EIS area.

Monitoring and Assessment Plans

Each Field Office will develop a plan that will direct its monitoring and assessment activities relative to making determinations on whether standards are being met, whether progress is being made toward meeting the standards if they are not currently being met, and whether livestock grazing is the reason for standards not being met. These plans need not be elaborate, but at a minimum they will include a list of the attributes that will be monitored, the monitoring methods that will be used (with reference to a complete description of the method), the allotments that will be monitored using these methods, the frequency at which the allotments will be monitored, and how often interdisciplinary assessments will be made of all the information collected (including monitoring data, qualitative assessment information, inventory data, etc.). A monitoring and assessment schedule will also be included. These monitoring and assessment plans will be made available to all interested parties.

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[Decision] Reference Section – Page 1

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APPENDIX F-2

Specific Local Livestock Management Guidelines – Alternative A

Local guidelines were established to describe the types of livestock grazing management actions that are appropriate and commonly applied within the Bakersfield FO to ensure that the resource objectives and the standards for rangeland and ecosystem health could be met while authorizing livestock grazing. These local guidelines correlate with the Central California Guidelines for Livestock Grazing Management but are generally more specific or more stringent. Applying these guidelines to appropriate grazing allotments occurs with consultation of affected grazing lessees/permittees. These guidelines are incorporated into the terms and conditions of each authorization, as appropriate.

ALLOTMENT LOCATION	SPECIFIC RESOURCE	GUIDELINE
Within San Joaquin Valley listed species habitat as shown on map.	Mulch readiness	500 pounds per acre and two inches of green growth, or 700 pounds per acre without green growth.
	Mulch threshold	500 pounds per acre
	Saltbush scrub	December 1-May 31 season of use or meets form class, foliage density, and reproductive uniformity criteria.
Riparian areas as shown on implementation table.	Poor to fair condition	November1-May 31 season of use and apply the Central California Guidelines for Livestock Grazing Management.
	Good to excellent condition	Maintain current season of use and apply the Central California Guidelines for Livestock Grazing Management.
Known population of California jewelflower (*Caulanthus californicus*)		No grazing unless in approved study or research shows grazing beneficial.
High potential habitat for California jewelflower (*Caulanthus californicus*)		No grazing during critical flowering period February 15- April 30.
Known population of San Joaquin woolly threads (*Monolopia congdonii*)		No grazing unless approved study or research shows grazing beneficial. Grazing may be allowed outside a study with USFWS approval.
Known population of Kern mallow (*Eremalche kernensis*)		No grazing unless in approved study or research shows grazing not detrimental.
Known population of Hoover's woolly star (*Eriastrum hooveri*)		No special restrictions.
Known occurrence of GKR (Giant Kangaroo Rat) as shown on implementation table.		No grazing during haystacking (April 1- June 15) in certain years.
If other species become listed		Prescription that takes into account specific species requirements.

Specific Local Livestock Management Guidelines – Alternative B and E

Local guidelines were established to describe the types of livestock grazing management actions that are appropriate and commonly applied within the Bakersfield FO to ensure that the resource objectives and the standards for rangeland and ecosystem health could be met while authorizing livestock grazing. These local guidelines correlate with the Central California Guidelines for Livestock Grazing Management but are generally more specific or more stringent. Applying these guidelines to appropriate grazing allotments occurs with consultation of affected grazing lessees/permittees. These guidelines are incorporated into the terms and conditions of each authorization, as appropriate.

ALLOTMENT LOCATION	SPECIFIC RESOURCE	GUIDELINE
Within San Joaquin Valley listed species habitat.	Mulch Readiness	500 lbs/ac. and 2" green growth, or 700 lbs/ac. without green growth.
	Mulch Threshold	500 lbs/ac.
	Saltbush Scrub	Dec.1-May 31 season of use or meets form class, foliage density, and reproductive uniformity criteria.
Riparian areas.	Poor-Fair condition	Nov.1-May 31 season of use and apply the Central CA Guidelines for Livestock Grazing Management.
	Good-Excellent condition	Maintain current season of use and apply the Central CA Guidelines for Livestock Grazing Management.
Known population of California jewelflower, *Caulanthus californicus.*		No grazing unless in approved study or research show grazing beneficial.
Known population of San Joaquin woolly threads, *Monolopia congdonii.*		Apply the Central CA Guidelines for Livestock Grazing Management.
Known population of Kern mallow, *Eremalche kernensis.*		No grazing unless in approved study or research shows grazing beneficial.
Known population of Hoover's woolly star, *Eriastrum hooveri.*		Apply the Central CA Guidelines for Livestock Grazing Management.
Known population of Shevock's monkeyflower, *Mimulus shevockii.*		No grazing.
Known occurrence of Kern primrose sphinx moth.		No grazing.
Known occurrence of Tehachapi slender salamander.		Apply the Central CA Guidelines for Livestock Grazing Management.
if other species become listed;		Prescription that takes into account specific species requirements.

Specific Local Livestock Management Guidelines – Alternative C

Local guidelines were established to describe the types of livestock grazing management actions that are appropriate and commonly applied within the Bakersfield FO to ensure that the resource objectives and the standards for rangeland and ecosystem health could be met while authorizing livestock grazing. These local guidelines correlate with the Central California Guidelines for Livestock Grazing Management but are generally more specific or more stringent. Applying these guidelines to appropriate grazing allotments occurs with consultation of affected grazing lessees/permittees. These guidelines are incorporated into the terms and conditions of each authorization, as appropriate.

ALLOTMENT LOCATION	SPECIFIC RESOURCE	GUIDELINE
Within San Joaquin Valley listed species habitat.	Mulch Readiness	500 lbs/ac. and 2" green growth, or 700 lbs/ac. without green growth.
	Mulch Threshold	500 lbs/ac.
	Saltbush Scrub	Dec.1-May 31 season of use or meets form class, foliage density, and reproductive uniformity criteria.
Riparian areas.	Poor-Fair condition	No grazing. Use exclusionary fencing if necessary.
	Good-Excellent condition	No grazing. Use exclusionary fencing if necessary.
Known population of California jewelflower, *Caulanthus californicus*		No grazing unless in approved study or research show grazing beneficial.
Known population of San Joaquin woolly threads, *Monolopia congdonii*		Apply the Central CA Guidelines for Livestock Grazing Management.
Known population of Kern mallow, *Eremalche kernensis*		No grazing unless in approved study or research shows grazing beneficial.
Known population of Hoover's woolly star, *Eriastrum hooveri*		Apply the Central CA Guidelines for Livestock Grazing Management.
Known population of Shevock's monkeyflower, *Mimulus shevockii.*		No grazing.
Known occurrence of Kern primrose sphinx moth		No grazing.
Known occurrence of Tehachapi slender salamander		No grazing.
if other species become listed		Prescription that takes into account specific species requirements.

ASSESSMENT OF RANGELAND HEALTH STANDARDS, CONTRIBUTING FACTORS AND APPROPRIATE ACTIONS

THIS FORM DOCUMENTS, FOR THE INDICATED AREA: (1) DETERMINATIONS AND SUPPORTING RATIONALE REGARDING IF FUNDAMENTAL RANGELAND HEALTH CONDITIONS CITED IN 43 CFR 4180.1 EXIST IN THESE AREAS; (2) DETERMINATIONS, IN CASES WHERE ONE OR MORE CONDITIONS OF FUNDAMENTAL RANGELAND HEALTH DO EXIST, REGARDING THE STANDARDS THAT ARE/ ARE NOT ACHIEVED; (3) DETERMINATIONS, IN THOSE CASES WHERE ONE OR MORE STANDARDS ARE NOT ACHIEVED, REGARDING THE CONTRIBUTING FACTOR(S) THAT IS (ARE) PREVENTING STANDARD(S) ACHIEVEMENT OR IS (ARE)PREVENTING SIGNIFICANT PROGRESS TOWARDS ITS (THEIR) ACHIEVEMENT; AND, (4) THE INFORMATION THAT WAS EXAMINED THAT SUPPORT THESE DETERMINATIONS.

Indicate the date(s) or period the assessment occurred: _____

Authorized season of use:_____

IDENTIFICATION OF RELEVANT AREA:

Describe and indicate the area where these determinations and rationale apply:

Landscape (identify by planning area, groups of management units, or by watershed:

_____

Management Unit (allotment or pasture - list name / no. / acres):

_____

Stratification (Specific area of Management Unit with unique resources where assessment is applicable):

_____

_____

Rationale for choosing Stratification and Key Species: _____

_____

Approximate size in acres and % of Management Unit (allot or pasture) or linear length if lotic riparian:

_____

Number of Strata for this management unit _____

BLM STAFF PARTICIPANTS:

NAMES	POSITION
_____	Rangeland Management Specialist
_____	Wildlife Biologist
_____	Botanist
_____	
_____	

DOCUMENTATION OF THE INVOLVEMENT OF PERMITTEES, STATE AGENCIES AND THE INTERESTED PUBLIC IN MAKING STANDARDS CONFORMANCE AND CONTRIBUTING FACTORS DETERMINATIONS

Indicate the occurrence of public participation (e.g. permittee, interested public, other Federal or State /local agency), or opportunities for public participation that pertains to the review of standards achievement and contributing factors (who, when, and conversation or meeting summary):

SUMMARY OF STANDARDS ACHIEVEMENT DETERMINATION AND RATIONALE

As of the date of the completion of this form, a field examination of the information listed above indicated the following with regard to standards achievement for the area identified:

Standard — Determination on Standard Achievement (check appropriate box for each standard)

Soils

☐ Met / ☐ Not met, but progressing towards / ☐ Not met and not progressing towards / ☐ N/A

Rationale: _____

_____

_____

Magnitude: Acres not meeting: _____ % allot.:_____ % pasture: _____

Are livestock a significant factor: Yes/ No. Explain or summarize other contributing factors

_____

Species

☐ Met / ☐ Not met, but progressing towards / ☐ Not met and not progressing towards / ☐ N/A

Rationale: _____

_____

_____

Magnitude: Acres not meeting: _____ % allot.:_____ % pasture: _____

Are livestock a significant factor: Yes/ No. Explain or summarize other contributing factors:

_____

Riparian

☐ Met / ☐ Not met, but progressing towards / ☐ Not met and not progressing towards / ☐ N/A

Rationale: _____

_____

_____

Magnitude: Acres not meeting: _____ % allot.:_____ % pasture:_____

Are livestock a significant factor: Yes/ No. Explain or summarize other contributing factors:

_____

Water Quality

☐ Met / ☐ Not met, but progressing towards / ☐ Not met and not progressing towards / ☐ N/A

Rationale: _____

_____

_____

Magnitude: Acres not meeting: _____ % allot.:_____ % pasture: _____

Are livestock a significant factor: Yes/ No. Explain or summarize other contributing factors:

_____

Management Recommendations/ Rationale:

_____

_____

_____

_____

_____

_____

I concur with this determination and the management recommendations provided.

Field Office Manager: _____ Date: _____

STANDARDS ASSESSMENT BASE INFORMATION

STANDARD: SOILS

Soils exhibit functional biological and physical characteristics that are appropriate to soil type, climate, and landform.

Meaning That: Precipitation is able to enter the soil surface at appropriate rates; the soil is adequately protected against accelerated erosion; and the soil fertility is maintained at appropriate levels.

Site Data: Soil Map Unit: _____ Soil Description: _____

STANDARD: SPECIES

Healthy, productive and diverse populations of native species, including special status species (Federal T&E, Federal proposed, Federal candidates, BLM sensitive, or Calif. State T&E) are maintained or enhanced where appropriate.
Meaning That: Native and other desirable plant and animals are diverse, vigorous, able to reproduce and support the hydrologic cycle, nutrient cycles and energy flows over space and time.

Plant Community(ies): (Holland)_____

CWHR Habitat/Stage: _____

Indicator Species: _____

Key Species Management Area?: _____

Habitat Elements Considered: _____

Focused Studies:(ongoing? needed?)_____

STANDARD: RIPARIAN

Riparian/wetland vegetation, structure and diversity and stream channels and floodplains are, or are making significant progress toward, functioning properly and achieving an advanced ecological status.
Meaning That: The vegetation and soils interact to capture and pass sediment, sustain infiltration, maintain the water table, stabilize the channel, sustain high water quality, and promote biodiversity appropriate to soils, climate, and landform.

Stream Habitat Community: _____

Ecological/Seral Stages: _____

STANDARD: WATER QUALITY

Surface and groundwater quality complies with California, or other appropriate (e.g. Nevada or Tribal) water quality standards.
Meaning That: BLM actions do not contribute to pollution that violates the quantitative or narrative standards of the California and Nevada water quality standards (WQS). Approved Best Management Practices (BMPs) are used to protect water quality or restore water quality to water bodies not fully supporting designated beneficial uses, e.g., water quality limited segments.
Surface and groundwater complies with objectives of the Clean Water Act and other applicable water quality requirements, including meeting the State standards within the respective boundaries of the States of California and Nevada.

Watershed: _____ CWA 303(d) impaired water body: Yes/ No

CURRENT CLIMATIC CONDITIONS:

Description of resources/ Rationale for Determination	Standard Indicator	Applicable Standards (un-shaded) and Determination (write Met; Not met; N/A)			
		Soils	Species	Riparian	Water Quality
Describe ground cover: Bare Ground_____% Herbs _____% Shrubs _____% Trees _____% Other _____%	Is ground cover (vegetation and other ground cover such as rock) sufficient to protect sites from accelerated erosion?				
Is organic matter level acceptable? Yes/No ____% cover litter/RDM Estimated lbs/ac _____ ____% cover live plants Heavy materials present in uplands? Yes/No N/A In riparian? Yes/No N/A	Is adequate organic matter (litter/RDM & standing plant material) evident in sufficient amounts to protect the soil surface and replenish soil nutrients through decomposition?				
Dom Cover spp: _____ 2nd: _____ Roots: Throughout; absent portions; one	Are a diversity of plant species, with a variety rooting depths present?				
(see Table 4-1 Rangeland Health) Soil movement C1 C2 C3 C4 C5 Surface/litter C1 C2 C3 C4 C5 Pedestaling C1 C2 C3 C4 C5 Flow patterns C1 C2 C3 C4 C5 Rills/Gullies C1 C2 C3 C4 C5	Is there minimal evidence of accelerated erosion in the form of rills, gullies, pedestaling of plants or rocks, flow patterns, physical soil crusts/ surface sealing, or compaction layers below the soil surface?				
Cryptogams _____% cover Variety: One Several Intact/ Fragmented	Are biological (microphytic,cryptogamic) soil crusts in place where appropriate and not excessively fragmented?				
Desired species present: Desired seral stage(s):	Where appropriate, does species composition contribute to desired plant community objectives?				
PERENNIAL VEG: Spp:_____ : Even distribution; Seedlings/young missing; Mostly old/decadent Describe structure: Spp:_____ : Even distribution; Seedlings/young missing; Mostly old/decadent Describe structure: Spp:_____ : Even distribution; Seedlings/young missing; Mostly old/decadent Describe structure: RIPARIAN VEG: Spp:_____ : Even distribution; Seedlings/young missing; Mostly old/decadent Describe structure: Spp:_____ : Even distribution; Seedlings/young missing; Mostly old/decadent Describe structure:	Is age-class and structure of woody/ riparian/ or perennial vegetation diverse and appropriate for the site?				

Description of resources/ Rationale for Determination	Standard Indicator	Applicable Standards (un-shaded) and Determination (write Met; Not met; N/A)			
		Soils	Species	Riparian	Water Quality
VIGOR: (Good=growing/reproducing, Fair=Not uniform/consistent, Poor=most stunted Spp:_____ Good Fair Poor Spp:_____ Good Fair Poor Spp:_____ Good Fair Poor Why? FORM:(Good=normal, Fair=developing abnormal, Poor=Most in abnormal) Spp:_____ Good Fair Poor Spp:_____ Good Fair Poor Spp:_____ Good Fair Poor Why?	Is plant vigor adequate to maintain desirable plants and ensure reproduction and recruitment of plants when favorable climatic events occur?				
Describe distribution of plant species and habitats: (Well distributed; becoming fragmented; clumped with many bare areas) Spp:_____ Even/ Fragmented/ Clumped Spp:_____ Even/ Fragmented/ Clumped Spp:_____ Even/ Fragmented/ Clumped	Does the spatial distribution and cover of plant species and their habitats allow for reproduction and recovery from localized catastrophic events?				
Describe germination microsites for key species: Present across area; Degraded microsites; Germination/seedlings inhibited	Are germination microsites for key species present?				
Natural disturbances noted:	Is appropriate. natural disturbance evident?				
Any non-native plants?: Spp:_____ Acceptable? Yes No Spp:_____ Acceptable? Yes No	Are levels of non-native plants and animals at acceptable levels?				
Any noxious/ invasive weeds? Spp:_____% Cover_____ Spp:_____% Cover_____	Are noxious and invasive species at acceptable levels?				

Description of resources/ Rationale for Determination	Standard Indicator	Applicable Standards (un-shaded) and Determination (write Met; Not met; N/A)			
		Soils	Species	Riparian	Water Quality
Any special status species? SSS: _____ Up/ Down/ Stable ? Habitat: Good/ Fair/ Poor Connected: Yes/ No Why? SSS: _____ Up/ Down/ Stable ? Habitat :Good/ Fair/ Poor Connected: Yes/ No Why? SSS: _____ Up/ Down/ Stable ? Habitat: Good/ Fair/ Poor Connected: Yes/ No Why?	Are special status species present, healthy and in numbers that appear to ensure stable to increasing populations? Are habitat areas large enough to support viable populations or connected adequately with other similar habitat areas?				
Wildlife habitat: Seral Stage:_____ Appropriate? Yes/ No Structure: Good/ Fair/ Poor, Why? Patch size: Adequate/ Inadequate	Do wildlife habitats include seral stages, vegetation structure, and patch size promoting diverse, viable wildlife pops?				
(see PFC checklist, TR 1737-9) ____% habitat PFC ____% habitat At Risk (Up, Down, Static) ____% habitat Non-Functional	Are Riparian/Wetland Habitat(s) in Proper Functioning Condition?				
Describe cover of riparian banks:	Is vegetation cover >80% or the percentage that will protect banks and dissipate energy during high flows?				
Describe shading of riparian area: Herbs: Yes/ No Shrubs: Yes/ No Trees: Yes/ No	Where appropriate., is shading sufficient to provide adequate thermal regulation for fish and other riparian dependent species?				
Describe aquatic organisms and plants: Any invertebrates?: Yes/ No Do they indicate: Good Quality/Poor Quality Fish: Yes/ No Algae: Yes/ No	Do aquatic organisms and plants (macro-invertebrates, fish, algae and plants) indicate support for beneficial uses?				
Is Riparian habitat quality Acceptable or Unacceptable? (see riparian standards)	Does Riparian Habitat quality contribute to beneficial uses?				

Lotic Area Standard Proper Functioning Condition Checklist

Name of Riparian-Wetland Area:_____

Date: _____ Segment/ Reach ID:_____ Miles:_____

ID Team Observers:_____

Yes	No	N/A	HYDROLOGIC
			1) Floodplain inundated in "relatively frequent" events (1-3 years)
			2) Active/stable beaver dams
			3) Sinuosity, width/depth ratio, and gradient are in balance with the landscape setting (i.e., landform, geology, and bioclimatic region)
			4) Riparian zone is widening or has achieved potential extent
			5) Upland watershed not contributing to riparian degradation

Yes	No	N/A	VEGETATIVE
			6) Diverse age-class distribution (recruitment for maintenance/recovery)
			7) Diverse composition of vegetation (for maintenance/recovery)
			8) Species present indicate maintenance of riparian soil moisture characteristics
			9) Streambank vegetation is comprised of those plants or plant communities that have root masses capable of withstanding high streamflow events
			10) Riparian plants exhibit high vigor
			11) Adequate vegetative cover present to protect banks and dissipate energy during high flows
			12) Plant communities in the riparian area are an adequate source of coarse and/or large woody debris

Yes	No	N/A	SOILS - EROSION DEPOSITION
			13) Floodplain and channel characteristics (i.e. rocks, overflow channels, coarse and/or large woody debris) adequate to dissipate energy
			14) Point bars are revegetating
			15) Lateral stream movement is associated with natural sinuosity
			16) System is vertically stable
			17) Stream is in balance with the water and sediment being supplied by the watershed (i.e. no excessive erosion or deposition)

Remarks

Summary Determination

Does the stream . . .

- Dissipate stream energy associated with high water flows, thereby reducing erosion and improving water quality?
- Filter sediment, capture bedload, and aid in floodplain development?
- Improve flood-water retention and ground water recharge?
- Develop root masses that stabilize streambanks against cutting action?

Functional Rating:

Proper Functioning Condition _____
Functional – At Risk _____
Nonfunctional _____
Unknown _____

Trend for Functional - At Risk:

Upward _____
Downward _____
Not Apparent _____

Are factors contributing to unacceptable conditions outside the control of the manager? Yes ___ No _____

If yes, what are those factors?

_____ Flow regulations
_____ Mining activities
_____ Upstream channel conditions
_____ Channelization
_____ Road encroachment
_____ Oil field water discharge
_____ Augmented flows
_____ Other (specify) _____

(Revised 27 June 2000)

Lentic Area Standard Proper Functioning Condition Checklist

Name of Riparian-Wetland Area:_____

Date: _____ Area/ Segment ID:_____ Acres:_____

ID Team Observers:_____

Yes	No	N/A	HYDROLOGIC
			1) Riparian-wetland area is saturated at or near the surface or inundated in "relatively frequent" events
			2) Fluctuation of water levels is not excessive
			3) Riparian-wetland are is enlarging or has achieved potential extent
			4) Upland watershed is not contributing to riparian-wetland degradation
			5) Water quality is sufficient to support riparian-wetland plants
			6) Natural surface or subsurface flow patterns are not altered by disturbance (i.e., hoof action, dams, dikes, trails, roads, rills, gullies, drilling activities)
			7) Structure accommodates safe passage of flows (e.g., no headcut affecting dam or spillway)

Yes	No	N/A	VEGETATION
			8) There is diverse age-class distribution of riparian-wetland vegetation (recruitment for maintenance/recovery)
			9) There is diverse composition of riparian-wetland vegetation (for maintenance/recovery)
			10) Species present indicate maintenance of riparian-wetland soil moisture characteristics
			11) Vegetation is comprised of those plants or plant communities that have root masses capable of withstanding wind events, wave flow events, or overland flows (e.g., storm events, snowmelt)
			12) Riparian-wetland plants exhibit high vigor
			13) Adequate riparian-wetland vegetative cover is present to protect shoreline/soil surface and dissipate energy during high wind and wave events or overland flows
			14) Frost or abnormal hydrologic heaving is not present
			15) Favorable microsite condition (i.e., woody material, water temperature, etc.) is maintained by adjacent site characteristics

Yes	No	N/A	EROSION/DEPOSITION
			16) Accumulation of chemicals affecting plant productivity/ composition is not apparent
			17) Saturation of soils (i.e., ponding, flooding frequency, and duration) is sufficient to compose and maintain hydric soils
			18) Underlying geologic structure/soil material/permafrost is capable of restricting water percolation
			19) Riparian-wetland is in balance with the water and sediment being supplied by the watershed (i.e., no excessive erosion or deposition)
			20) Islands and shoreline characteristics (i.e., rocks, coarse and/or large woody material) are adequate to dissipate wind and wave event energies

Remarks

_____
_____
_____
_____
_____
_____
_____
_____
_____
_____
_____
_____
_____

Summary Determination

Functional Rating:

Proper Functioning Condition _____
Functional – At Risk _____
Nonfunctional _____
Unknown _____

Trend for Functional - At Risk:

Upward_____
Downward _____
Not Apparent_____

Are factors contributing to unacceptable conditions outside the control of the manager?

Yes _____
No _____

If yes, what are those factors?

_____ Dewatering
_____ Mining activities
_____ Watershed condition
_____ Dredging activities
_____ Road encroachment
_____ Land ownership
_____ Other (specify) _____

(Revised 1999)

TABLE 4-1 Surface Soil Characteristics of the Bureau of Land Management

Characteristic	Class 1	Class 2	Class 3	Class 4	Class 5
Soil movement	Subsoil exposed over much of the area; may have embryonic dunes and wind-scoured depressions	Soil and debris deposited against minor obstructions	Moderate movement of soil is visible and recent; slight terracing	Some movement of soil particles	No visual evidence of movement
Surface rock and/ or litter	Very little remaining (use care on low-productivity sites); if present, surface rock or fragments exhibit some movement and accumulation of smaller fragments behind obstacles	Extreme movement is apparent; large and numerous deposits against obstacle; if present, rock or fragments exhibit some movement and accumulation of smaller fragments behind obstacles	Moderate movement is apparent and fragments are deposited against obstacles; if present, fragments have a poorly developed distribution pattern	May show slight movement; if present, coarse fragments have a truncated appearance or spotty distribution caused by wind and water	Accumulation in place; if present, the distribution of fragments shows no movement caused by wind or water
Pedestaling	Most rocks and plants are pedestaled and roots exposed	Rocks and plants on pedestals are generally evident; plant roots are exposed	Small rock and plant pedestals occurring in flow patterns	Slight pedestaling in flow patterns	No visual evidence of pedestaling
Flow patterns	Flow patterns are numerous and readily noticeable; may have large barren fan deposits	Flow patterns contain silt, sand deposits and alluvial fans	Well defined, small, and few with intermittent deposits	Deposition of particles may be in evidence	No visual evidence of flow patterns
Rills and gullies	May be present at depths of 8 to 15 cm (3 to 6 inches) and intervals of less than 13 cm (5 inches); sharply incised gullies cover most of the area, and 50 percent are actively eroding	Rills at depths of 1 to 15 cm (0.5 to 6 inches) occur in exposed areas at intervals of 150 cm (5 feet); gullies are numerous and well developed, with active erosion along 10 to 50 percent of their lengths or a few well-developed gullies with active erosion along more than 50 percent of their length	Rills at depths of 1 to 15 cm (0.5 to 6 inches)occur in exposed places at approximately 300 cm (10 foot) intervals; gullies are well developed, with active erosion along less than 10 percent of their length; some vegetation may be present	Some rills in evidence at infrequent intervals of over 300 cm (10 feet); evidence of gullies that show little bed or slope erosion; some vegetation is present on slopes	No visual evidence of rills; may be present in stable condition; vegetation on channel bed and side slopes

SOURCE: Rangeland Health: Adapted from U.S. Department of the Interior, Bureau of Land Management. 1973. Determination of Erosion Condition Class, Form 7310-12. May. Washington, D.C.: U.S. Department of the Interior.

Appendix F-3A

Current Rangeland Health Assessment Results

Allotment Number	Allotment Name	Public Acres[1]	Kind of Stock	Period Begin Date	Period End Date	Public AUMs	Range Health Assessment Date	Range Health Category[2]
2	Oilfield Road	440	Sheep	12/1	5/31	73	11/30/04	2
3	Naval Pet Res. I	1,518	Sheep	12/1	5/31	253	04/05/01	2
5	Blossom Peak	80	Cattle	3/1	6/1	7	None	N/A
6	Cuyama 2	480	Cattle	3/1	2/28	80	02/21/07	2
7	Freeborn Mt.	1,804	Cattle	3/1	2/28	254	03/14/07	2
8	Pleito Hills	3,423	Cattle	3/1	2/28	1,028	08/06/98	2
9	Badger Creek	480	Cattle	4/1	9/30	90	04/25/02	4
10	Santa Rita	160	Cattle	3/1	9/15	16	06/19/02	1 and 4
12	Live Oak Pass	280	Cattle	6/1	9/30	70	04/18/07	2
13	Temblor Creek	328	Cattle	3/1	2/28	82	06/26/02	2
14	Case Mountain	5,576	Cattle	10/1	5/31	423	07/22/98	2
15	North Temblor[3]	34,795	Cattle	3/1	2/28	7,733	06/28/06	2
15	North Temblor		Cattle	12/1	5/31			
15	North Temblor (portion in BKFO managed by CPNM)	137	Cattle	3/1	2/28	30		
16	Oil Field	4,270	Sheep	12/1	5/31	303	02/25/05	2
17	North Fork River	5,693	Cattle	3/1	2/28	456	08/12/98	2
19	Buena Vista Creek	720	Sheep	12/1	5/31	107	04/05/01	2
20	Elephant Back	80	Cattle	3/1	2/28	16	02/24/00	2
21	Frazer Valley	1,694	Cattle	12/1	5/31	184	03/04/10	2
23	Hanning Flat West	754	Cattle	11/1	5/31	75	04/07/10	2
24	Bear Creek	405	Cattle	3/1	2/28	10	11/14/07	2
27	Bitterwater Valley	80				12	None	N/A
28	Kettleman Hills	5,216	Cattle	12/1	5/31	1,304	03/10/10	2,1 and 4
28	Kettleman Hills		Cattle	3/1	2/28			
30	West Klipstein	561	Cattle	3/1	2/28	112	03/22/06	2
32	Hubbard Hill	3,080	Cattle	3/1	2/28	418	03/07/07	2
33	Mankins Creek	476	Cattle	10/1	6/30	80	03/21/07	2
34	North Comb Rocks	230				39	None	N/A
35	Red Hill	160				3	None	N/A
36	Horn Mountain	1,517	Cattle	3/1	2/28	65	08/28/03	2
37	Raven Pass	40	Cattle	9/1	5/31	12	07/12/01	1
38	North Naval Petroleum Res.	2,278				380	None	N/A
39	Chimineas Ranch South[3]	4,982				730	None	N/A
40	Rio Bravo	401	Cattle	3/1	2/28	100	04/25/02	4
41	Derby Acres	530				151	None	N/A
42	Jack Canyon	33	Cattle	3/1	2/28	12	04/24/08	2
45	Goldpan Canyon	470	Cattle	3/1	2/28	84	12/16/98	2
47	Rankin Ranch	867	Cattle	3/1	2/28	144	None	N/A
48	Mountain Creek	264	Cattle	3/1	2/28	88	02/23/06	4
49	Loraine	678	Cattle	3/1	2/28	113	12/16/98	2
50	Santa Barbara Canyon	1,734	Cattle	3/1	2/28	118	08/01/02	2
51	Studhorse Canyon	498	Cattle	11/1	5/31	100	05/11/98	2

Allotment Number	Allotment Name	Public Acres[1]	Kind of Stock	Period Begin Date	Period End Date	Public AUMs	Range Health Assessment Date	Range Health Category[2]
52	Thompson Ridge	1,250				63	None	N/A
54	Willow Spring Canyon	480	Cattle	3/1	2/28	96	03/10/10	2
55	South Mountain	186	Cattle	3/1	2/28	23	06/11/08	2
56	Round Mountain Road	160	Cattle	12/1	5/31	27	10/08/03	2
57	Santiago Creek	2,723	Cattle	3/1	2/28	545	10/23/06	2
57	Santiago Creek		Cattle	12/1	5/31			
58	Anderson Canyon	2,120	Cattle	3/1	2/28	311	03/14/07	2
59	Loco Bill Canyon	640	Cattle	4/1	9/30	82	05/11/98	2
60	Santa Teresa	1,883	Cattle	3/1	2/28	400	06/26/08	2
61	Oak Grove	2,901	Cattle	4/1	9/30	235	08/19/98	2
62	Curtis Mountain	40	Cattle	3/1	2/28	13	None	N/A
63	Chico Martinez	8,602	Cattle	3/1	2/28	1,671	07/14/05	2
63	Chico Martinez		Cattle	12/1	5/31			
64	Cedar Canyon	624	Cattle	10/15	6/30	139	04/14/05	2
64	Cedar Canyon		Cattle	12/1	5/31			
65	Packwood	1,155	Cattle	12/1	5/31	282	08/02/01	1
65	Packwood		Cattle	3/1	2/28			
66	Liveoak Canyon	80				13	None	N/A
68	San Emigdio	650	Cattle	3/1	2/28	191	07/17/02	2
71	Rancheria	194				49	None	N/A
72	Bluestone Ridge	2,673	Cattle	12/1	6/30	668	09/04/98	2
73	Chimineas Ranch North	3,949	Cattle	12/1	5/31	759	05/06/10	1
74	Freedom Hill	2,278	Cattle	3/1	5/15	539	04/08/98	2
75	Kelso Peak	768	Cattle	2/1	5/15	154	08/15/01	2
76	Sacatar Meadow	6,320	Cattle	9/1	10/31	96	10/09/07	2
77	Walker Pass West	14,566	Cattle	1/1	6/30	781	01/13/00	2
78	Airport	1,759	Cattle	3/1	5/15	176	04/07/10	2
79	Fay Canyon	361	Cattle	3/1	4/30	64	08/15/01	2
80	Smith Canyon	2,760				60	None	N/A
81	Nellie's Nipple	3,885	Cattle	3/15	10/14	528	01/25/06	2
82	Short Canyon	3,260	Cattle	2/1	4/30	150	03/20/98	2
83	Lynch Canyon	510	Cattle	3/1	4/30	64	12/02/98	2
84	Cyrus Canyon	2,236	Cattle	10/1	5/15	225	04/18/02	2
85	Cooks Peak	2,111	Cattle	11/1	5/31	217	07/15/99	2
86	Cholla Canyon	4,572	Cattle	10/15	6/30	1,825	05/19/03	2
87	Havilah Basin	4,862	Cattle	3/1	2/28	356	03/18/10	2
87	Havilah Basin		Cattle	5/1	9/30			
88	Sales Creek[4]	40	Cattle	3/1	2/28	50	03/08/00	2
89	Bodfish	114	Cattle and horses	3/1	9/30	14	09/09/04	2
90	Wagy Flat	10,138	Cattle	2/15	4/30	521	09/09/04	2
91	Sulphur Ridge	506	Cattle	3/1	2/28	34	04/25/07	2
93	Eagle's Nest Peak	680	Cattle	11/1	5/31	182	02/06/06	2
94	South Comb Rocks	399	Cattle	10/1	6/30	100	03/21/07	2
95	Progress Gulch	480	Cattle	3/1	6/30	80	04/18/07	2
96	Maricopa[3]	5,979	Cattle	12/1	5/31	939	04/15/99	2
96	Maricopa		Cattle	3/1	2/28			

Allotment Number	Allotment Name	Public Acres[1]	Kind of Stock	Period Begin Date	Period End Date	Public AUMs	Range Health Assessment Date	Range Health Category[2]
97	Mc Van Oil Field	200	Cattle	3/1	2/28	34	03/29/01	1
98	Fresno River[4]	160	Cattle	5/1	10/31	36	09/07/01	1
99	Bittercreek Drainage	240	Cattle	3/1	2/28	60	04/28/05	2
100	Dry Creek	160	Cattle	3/1	2/28	20	07/16/08	2
102	Burnt Point	1,493	Cattle	3/1	2/28	79	05/23/07	2
103	Milk Ranch Peak	1,652	Cattle	4/15	9/30	133	07/11/07	2
104	Wash Burn Cove	628	Cattle	10/1	4/15	118	03/28/07	2
106	Western Minerals Road	1,540	Cattle	12/1	5/31	308	03/10/98	2
107	Cienaga Canyon	1,902	Cattle	12/1	5/31	380	05/10/06	2
108	Paso Robles	20	Horses	1/1	3/31	3	None	N/A
111	Sand Canyon	2,702	Cattle	3/1	2/28	365	01/19/00	2
113	Johns Peak	1,040	Cattle	3/1	2/28	168	03/13/02	2
114	East Klipstein	90	Cattle	3/1	9/30	18	03/22/06	2
115	Power Line Road	215	Sheep	1/1	5/31	36	03/29/01	2
116	Devils Gulch	600	Cattle	12/1	5/31	120	05/10/06	2
117	Red Mountain	7,317				327	None	N/A
118	Scobie Meadow	6,890	Cattle	6/1	10/31	182	06/08/00	2
119	Bald Eagle Peak	2,400	Cattle	3/1	2/28	168	03/18/10	2
120	Spanish Needle Creek	3,160	Cattle	3/15	6/5	40	07/08/98	2
123	Canebrake	8,238	Cattle	1/1	6/30	952	04/17/98	2
124	Long Valley	17,687	Cattle	10/1	11/30	226	06/12/02	2
125	Kennedy Lamont	44,296	Cattle	7/1	9/30	396	10/17/07	2
126	Lower Kennedy Table[4]	105	Cattle	12/1	5/31	30	03/27/01	2
128	Lwr Hiddenvalley Rch[4]	1,331	Cattle	12/1	5/31	236	04/25/05	2
129	Big Sandy[4]	813	Cattle	12/1	5/31	225	02/10/00	2
130	Smalley Road[4]	540	Cattle	11/15	5/15	188	03/01/00	2
136	Fowler Mountain[4]	280	Cattle	3/1	2/28	120	09/07/05	2
149	South Fork Kern River	800	Cattle	11/1	6/30	20	07/17/08	1
157	Wheeler Ridge	480	Cattle	12/1	5/31	144	02/28/07	1 and 4
157	Wheeler Ridge		Cattle	3/1	2/28			
3464	Franciscan	800	Cattle	3/1	2/28	168	08/02/01	2
3655	Wood Canyon[3]	204	Cattle	12/1	5/31	5	06/26/02	2
3718	Buena Vista	311	Cattle	3/1	2/28	62	06/26/08	2
3719	Vista Del Mar	165				10	None	N/A
3720	Klau Mine	12				3	None	N/A
3750	San Joaquin River Slope[4]	857	Cattle	12/1	5/31	240	3/27/01	2
4309	Surprise Arroyo (portion in BKFO managed by HFO)	~1,300	Cattle and Sheep	1/1	4/30	~417		
5008	Rudnick Common (portion in BKFO managed by RFO)	~7,000	Cattle	3/1	2/28	~412		

[1]Acreage figures in this table are approximate and may not correspond with cumulative totals elsewhere in this document.
[2]1=One or more standards not being met, livestock are significant contributor to failure; 2=All standards being met; 3=Status of one or more standards is unknown or cause of failure unknown; 4=One or more standards not being met due to cause other than livestock grazing (also see Appendix F-1).
[3]Portion of this allotment lies within the Carrizo Plain National Monument.
[4]Allotments currently directed by the Hollister RMP of 1984.

APPENDIX F-4

Selective Management Categories for Grazing Allotments

The Bureau began categorizing allotments upon the issuance of Instruction Memorandum No. 82-292 on March 5, 1982. That memorandum established the selective management approach to rangeland management. The selective management policy is intended to provide our agency with a logical and consistent system of prioritizing our management implementation needs by identifying those allotments needing the most management emphasis in regards to our capabilities at hand. The Bakersfield Field Office felt this policy was quite useful in helping to organize our many management priorities. In the 1997 Caliente RMP we redefined the categories and criteria described in IM-82-292 to fit our needs and put emphasis on the values we use intuitively to prioritize our management efforts. We have developed and continue to use the following three categories:

(I) Intensive: Concentrate effort in areas which require intensive management.

(M) Moderate: Provide moderate level of effort to maintain condition or effect change.

(C) Continue: Manage custodially, while protecting existing resource values and condition.

The following standard and optional criteria are being used in the Bakersfield Field Office to place allotments into the three identified categories.

Standard Criteria Used to Categorize Grazing Allotments

Resource Objective
Are the resources near, at, or far from their desired condition? Is intensive management effort required to reach objective or maintain stable condition, or will objective be met without much outside effort?

Resource Trend
Are resources moving toward objective, moving away from objective, or are they stable? Are apparent resource conditions improving or declining?

Present Management
Is present management satisfactory to meet long term management objectives? Is present management contributing to maintaining or meeting resource objectives? If resource conditions need improving, will a change in present management effect any change in resource trend toward objective?

Resource Use Conflicts/ Controversy
Do serious resource use conflicts exist which require special management emphasis? Is the allotment important to many user groups? Do special or sensitive resources, including special status species, exist which may require intensive management?

Optional Criteria Used to Categorize Grazing Allotments

Amount of Public Land

Does the percentage of Federal land within the management unit restrict implementation of desired changes? Is management change infeasible due to limited public lands within the management unit?

Cooperation

Does the grazing operator maintain existing projects and will future projects be maintained? Is the grazing operator willing to work with the Bureau in implementing management prescriptions?

Economic Return

What is the likelihood of positive economic return on public investment? Are desired resource objectives and proposed changes economically feasible?

Each allotment is rated separately based on the described standard criteria and the following scorecard:

SELECTIVE MANAGEMENT CATEGORY			
STANDARD CRITERIA	I	M	C
Resource Objective:	Far below desired condition.	Near or at desired condition.	Near desired condition.
Resource Trend:	Stable, moving toward objective, or moving away from objective.	Stable, or moving toward objective.	Stable, or moving toward objective.
Effect of Present Management:	Present management not satisfactory to maintain or reach objectives.	Present management contributing toward maintaining or meeting objectives.	Present management contributing toward maintaining or meeting objectives.
Resource Conflicts:	Conflicts evident.	Conflicts limited.	Conflicts minimal.
TOTAL SCORE:			
OPTIONAL CRITERIA	I	M	C
Amount of Public Land:	> 60%, Change possible.	59%-10%, Change restricted.	<10%, Change not feasible.
Cooperation:	Low level of cooperation.		Cooperative and reliable.
Economic Return:	Positive return.	Possible return.	Return not likely.
TOTAL SCORE:			

After evaluating an allotment and selecting a management category for each of the standard criteria, an obvious category assignment is usually indicated. However, in the instance that the scores between two management classes for a given allotment is even after applying the standard criteria, then the optional criteria are used to make the final category assignment.

The identification of management categories is a dynamic process. When the resource situation of an allotment changes following the implementation of management decisions, the allotment may be recategorized. The monitoring to support recategorization need not be limited to the type of monitoring typically used to manage livestock grazing (i.e., utilization, mulch, actual use, weather, trend and condition). Information from any source (e.g., wildlife, watershed, special status plant and animal, or archeological monitoring) may serve to make apparent and justify the need for recategorization. Due to time limitations, the categories printed in the allocation table of this document do not reflect the use of these newly developed criteria. The Field Office staff, in cooperation and consultation with affected grazing lessees/permittees and interested parties, will re-evaluate and categorize each allotment in order to determine management emphasis for the future.

APPPENDIX F-5

Livestock Grazing Implementation Levels; Alternative A

Allotment Number	Allotment Name	Public Acres[1]	Mgmt. Status[2]	Type Auth.[3]	Kind Of Stock	Period Begin Date	Period End Date	Public Aums
2	Oilfield Road	440	M	15	Sheep	12/1	5/31	73
3	Naval Pet Res. I	1,518	M	15	Sheep	12/1	5/31	253
5	Blossom Peak	80	C	15	Cattle	3/1	6/1	7
6	Cuyama 2	480	C	15	Cattle	3/1	2/28	80
7	Freeborn Mt.	1,804	C	15	Cattle	3/1	2/28	254
8	Pleito Hills	3,423	C	15	Cattle	3/1	2/28	1,028
9	Badger Creek	480	C	15	Cattle	4/1	9/30	90
10	Santa Rita	160	C	15	Cattle	3/1	9/15	16
12	Live Oak Pass	280	C	15	Cattle	6/1	9/30	70
13	Temblor Creek	328	M	15	Cattle	3/1	2/28	82
14	Case Mountain	5,576	I	15	Cattle	10/1	5/31	423
15	North Temblor[4]	34,795	M	15	Cattle	3/1	2/28	7,733
15	North Temblor[4]	0	M	15	Cattle	12/1	5/31	0
15	North Temblor (Portion in BKFO Managed by CPNM)	137	M	15	Cattle	3/1	2/28	30
16	Oil Field	4,270	M	15	Sheep	12/1	5/31	303
17	North Fork River	5,693	M	15	Cattle	3/1	2/28	456
19	Buena Vista Creek	720	M	15	Sheep	12/1	5/31	107
20	Elephant Back	80	C	15	Cattle	3/1	2/28	16
21	Frazer Valley	1,694	M	15	Cattle	12/1	5/31	184
23	Hanning Flat West	754	C	3	Cattle	11/1	5/31	75
24	Bear Creek	405	M	15	Cattle	3/1	2/28	10
27	Bitterwater Valley	80	C	15				12
28	Kettleman Hills	5,216	I	15	Cattle	12/1	5/31	1,304
28	Kettleman Hills	0	I	15	Cattle	3/1	2/28	0
30	West Klipstein	561	C	15	Cattle	3/1	2/28	112
32	Hubbard Hill	3,080	C	15	Cattle	3/1	2/28	418
33	Mankins Creek	476	C	15	Cattle	10/1	6/30	80
34	North Comb Rocks	230	C	15				39
35	Red Hill	160	C	15	Cattle	3/1	2/28	3
36	Horn Mountain	1517	C	15	Cattle	3/1	2/28	65
37	Raven Pass	40	C	15	Cattle	9/1	5/31	12
38	North Naval Petroleum Res.	2,278	I	15				380
39	Chimineas Ranch South[4]	4,982	M	15	Cattle	12/1	5/31	730
40	Rio Bravo	401	C	15	Cattle	3/1	2/28	100
41	Derby Acres	530	C	15				151
42	Jack Canyon	33	C	15	Cattle	3/1	2/28	12
45	Goldpan Canyon	470	I	15	Cattle	3/1	2/28	84
47	Rankin Ranch	867	C	15	Cattle	3/1	2/28	144
48	Mountain Creek	264	C	15	Cattle	3/1	2/28	88
49	Loraine	678	I	15	Cattle	3/1	2/28	113
50	Santa Barbara Canyon	1,734	M	15	Cattle	3/1	2/28	118
51	Studhorse Canyon	498	M	3	Cattle	11/1	5/31	100
52	Thompson Ridge	1,250	M	15	Cattle	5/1	7/31	63
54	Willow Spring Canyon	480	M	15	Cattle	3/1	2/28	96

Allotment Number	Allotment Name	Public Acres[1]	Mgmt. Status[2]	Type Auth.[3]	Kind Of Stock	Period Begin Date	Period End Date	Public Aums
55	South Mountain	186	C	15	Cattle	3/1	2/28	23
56	Round Mountain Road	160	M	15	Cattle	12/1	5/31	27
57	Santiago Creek	2,723	M	15	Cattle	3/1	2/28	545
57	Santiago Creek	0	M	15	Cattle	12/1	5/31	0
58	Anderson Canyon	2,120	C	15	Cattle	3/1	2/28	311
59	Loco Bill Canyon	640	I	15	Cattle	4/1	9/30	82
60	Santa Teresa	1,883	M	15	Cattle	3/1	2/28	400
61	Oak Grove	2,901	I	15	Cattle	4/1	9/30	235
62	Curtis Mountain	40	C	15	Cattle	3/1	2/28	13
63	Chico Martinez	8,602	I	15	Cattle	3/1	2/28	1,671
63	Chico Martinez	0	I	15	Cattle	12/1	5/31	0
64	Cedar Canyon	624	C	15	Cattle	10/15	6/30	139
64	Cedar Canyon	0	C	15	Cattle	12/1	5/31	0
65	Packwood	1,155	M	15	Cattle	12/1	5/31	282
65	Packwood	0	M	15	Cattle	3/1	2/28	0
66	Liveoak Canyon	80	C	15				13
68	San Emigdio	650	C	15	Cattle	3/1	2/28	191
71	Rancheria	194	C	15				49
72	Bluestone Ridge	2,673	M	15	Cattle	12/1	6/30	668
73	Chimineas Ranch North	3,949	M	15	Cattle	12/1	5/31	759
74	Freedom Hill	2,278	I	3	Cattle	3/1	5/15	539
75	Kelso Peak	768	M	3	Cattle	2/1	5/15	154
76	Sacatar Meadow	6,320	C	3	Cattle	9/1	10/31	96
77	Walker Pass West	14,566	I	3	Cattle	1/1	6/30	781
78	Airport	1,759	M	3	Cattle	3/1	5/15	176
79	Fay Canyon	361	C	3	Cattle	3/1	4/30	64
80	Smith Canyon	2,760	M	3				60
81	Nellie's Nipple	3,885	M	3	Cattle	3/15	10/14	528
82	Short Canyon	3,260	I	3	Cattle	2/1	4/30	150
83	Lynch Canyon	510	C	3	Cattle	3/1	4/30	64
84	Cyrus Canyon	2,236	M	3	Cattle	10/1	5/15	225
85	Cooks Peak	2,111	C	3	Cattle	11/1	5/31	217
86	Cholla Canyon	4,572	M	3	Cattle	10/15	6/30	1,825
87	Havilah Basin	4,862	M	3	Cattle	3/1	2/28	356
87	Havilah Basin	0	M	3	Cattle	5/1	9/30	0
88	Sales Creek	40	C	15	Cattle	3/1	2/28	50
89	Bodfish	114	C	3	Cattle & Horses	3/1	9/30	14
90	Wagy Flat	10,138	M	3	Cattle	2/15	4/30	521
91	Sulphur Ridge	506	C	15	Cattle	3/1	2/28	34
93	Eagle's Nest Peak	680	C	15	Cattle	11/1	5/31	182
94	South Comb Rocks	399	C	15	Cattle	10/1	6/30	100
95	Progress Gulch	480	C	15	Cattle	3/1	6/30	80
96	Maricopa[4]	5,979	I	15	Cattle	12/1	5/31	939
96	Maricopa[4]	0	I	15	Cattle	3/1	2/28	0
97	Mc Van Oil Field	200	C	15	Cattle	3/1	2/28	34
98	Fresno River	160	C	15	Cattle	5/1	10/31	36
99	Bittercreek Drainage	240	C	15	Cattle	3/1	2/28	60

Allotment Number	Allotment Name	Public Acres[1]	Mgmt. Status[2]	Type Auth.[3]	Kind Of Stock	Period Begin Date	Period End Date	Public Aums
100	Dry Creek	160	C	15	Cattle	3/1	2/28	20
102	Burnt Point	1,493	M	15	Cattle	3/1	2/28	79
103	Milk Ranch Peak	1,652	C	15	Cattle	4/15	9/30	133
104	Wash Burn Cove	628	M	15	Cattle	10/1	4/15	118
106	Western Minerals Rd.	1,540	I	15	Cattle	12/1	5/31	308
107	Cienaga Canyon	1,902	M	15	Cattle	12/1	5/31	380
108	Paso Robles	20	C	15	Horses	1/1	3/31	3
111	Sand Canyon	2,702	I	15	Cattle	3/1	2/28	365
113	Johns Peak	1,040	C	15	Cattle	3/1	2/28	168
114	East Klipstein	90	C	15	Cattle	3/1	9/30	18
115	Power Line Road	215	M	15	Sheep	1/1	5/31	36
116	Devils Gulch	600	M	15	Cattle	12/1	5/31	120
117	Red Mountain	7,317	I	15				327
118	Scobie Meadow	6,890	M	3	Cattle	6/1	10/31	182
119	Bald Eagle Peak	2,400	M	3	Cattle	3/1	2/28	168
120	Spanish Needle Creek	3,160	I	3	Cattle	3/15	6/5	40
123	Canebrake	8,238	M	3	Cattle	1/1	6/30	952
124	Long Valley	17,687	M	3	Cattle	10/1	11/30	226
125	Kennedy Lamont	44,296	M	3	Cattle	7/1	9/30	396
126	Lower Kennedy Table	105	M	15	Cattle	9/15	5/31	30
128	Lwr Hiddenvalley Rch	1,331	M	15	Cattle	12/1	5/31	236
129	Big Sandy	813	M	15	Cattle	12/1	5/31	225
130	Smalley Road	540	M	15	Cattle	11/15	5/15	188
136	Fowler Mountain	280	M	15	Cattle	3/1	2/28	120
149	South Fork Kern River	800	C	3	Cattle	11/1	6/30	20
157	Wheeler Ridge	480	C	15	Cattle	12/1	5/31	144
157	Wheeler Ridge	0	C	15	Cattle	3/1	2/28	0
3464	Franciscan	800	M	15	Cattle	3/1	2/28	168
3655	Wood Canyon[4]	204	M	15	Cattle	12/1	5/31	5
3718	Buena Vista	311	M	15	Cattle	3/1	2/28	62
3719	Vista Del Mar	165	C	15				10
3720	Klau Mine	12	C	15				3
3750	San Joaquin River Slope	857	M	15	Cattle	12/1	5/31	240
4309	Surprise Arroyo (~ Portion in BKFO Managed by HFO)	1,300	I	15	Cattle & Sheep	1/1	4/30	~417
5008	Rudnick Common (~ Portion in BKFO Managed by RFO)	7,000	I	3	Cattle	3/1	2/28	~412
								34,526
	Available for application	20,800						3,100
	Estimated potential grazing opportuinity[5]							37,626

[1]Acreage figures in this table are approximate and may not correspond with cumulative totals elsewhere in this document.

[2]C=Continue, M=Moderate, I=Intensive (also see Selective Management Categories in Appendix F-4).

[3]3=Grazing permits issued on public lands within the grazing districts established under the Taylor Grazing Act; 15=Grazing leases on public lands outside the original grazing district boundaries.

[4]Portion of this allotment lies within the Carrizo Plain National Monument.

[5]Total of authorized AUMs and projected future authorized AUMs, under the assumptions that 75% of acres available for application would be authorized and given a stocking rate of 5 acres/AUM.

Livestock Grazing Implementation Levels; Alternative B

Allotment Number	Allotment Name	Public Acres[1]	Mgmt. Status[2]	Type Auth.[3]	Kind Of Stock	Period Begin Date	Period End Date	Public Aums
2	Oilfield Road	440	M	15	Sheep	12/1	5/31	73
3	Naval Pet Res. I	1,518	M	15	Sheep	12/1	5/31	253
5	Blossom Peak	80	C	15	Cattle	3/1	6/1	7
6	Cuyama 2	480	C	15	Cattle	3/1	2/28	80
7	Freeborn Mt.	1,804	C	15	Cattle	3/1	2/28	254
8	Pleito Hills	3,423	C	15	Cattle	3/1	2/28	1,028
9	Badger Creek	480	C	15	Cattle	4/1	9/30	90
10	Santa Rita	160	C	15	Cattle	3/1	9/15	16
12	Live Oak Pass	280	C	15	Cattle	6/1	9/30	70
13	Temblor Creek	328	M	15	Cattle	3/1	2/28	82
14	Case Mountain	3,903	I	15	Cattle	10/1	5/31	296
15	North Temblor[4]	34,795	M	15	Cattle	3/1	2/28	7,733
	North Temblor[4]		M	15	Cattle	12/1	5/31	0
	North Temblor (Portion in BKFO Managed by CPNM)	137	M	15	Cattle	3/1	2/28	30
16	Oil Field	4,270	M	15	Sheep	12/1	5/31	303
17	North Fork River	5,693	M	15	Cattle	3/1	2/28	456
19	Buena Vista Creek	720	M	15	Sheep	12/1	5/31	107
20	Elephant Back	80	C	15	Cattle	3/1	2/28	16
21	Frazer Valley	1,694	M	15	Cattle	12/1	5/31	184
23	Hanning Flat West	302	C	3	Cattle	11/1	5/31	30
24	Bear Creek	405	M	15	Cattle	3/1	2/28	10
27	Bitterwater Valley	80	C	15				12
28	Kettleman Hills	5,216	I	15	Cattle	12/1	5/31	1,304
	Kettleman Hills		I	15	Cattle	3/1	2/28	0
30	West Klipstein	561	C	15	Cattle	3/1	2/28	112
32	Hubbard Hill	3,080	C	15	Cattle	3/1	2/28	418
33	Mankins Creek	476	C	15	Cattle	10/1	6/30	80
34	North Comb Rocks	230	C	15				39
35	Red Hill	160	C	15	Cattle	3/1	2/28	3
36	Horn Mountain	1,517	C	15	Cattle	3/1	2/28	65
37	Raven Pass	40	C	15	Cattle	9/1	5/31	12
38	North Naval Petroleum Res.	2,278	I	15				380
39	Chimineas Ranch South[4]	4,982	M	15	Cattle	12/1	5/31	730
40	Rio Bravo	401	C	15	Cattle	3/1	2/28	100
41	Derby Acres	530	C	15				151
42	Jack Canyon	33	C	15	Cattle	3/1	2/28	12
45	Goldpan Canyon	470	I	15	Cattle	3/1	2/28	84
47	Rankin Ranch	867	C	15	Cattle	3/1	2/28	144
48	Mountain Creek	264	C	15	Cattle	3/1	2/28	88
49	Loraine	678	I	15	Cattle	3/1	2/28	113
50	Santa Barbara Canyon	1,734	M	15	Cattle	3/1	2/28	118
51	Studhorse Canyon	498	M	3	Cattle	11/1	5/31	100
52	Thompson Ridge	1,250	M	15	Cattle	5/1	7/31	63
54	Willow Spring Canyon	480	M	15	Cattle	3/1	2/28	96
55	South Mountain	186	C	15	Cattle	3/1	2/28	23
56	Round Mountain Road	160	M	15	Cattle	12/1	5/31	27

Allotment Number	Allotment Name	Public Acres[1]	Mgmt. Status[2]	Type Auth.[3]	Kind Of Stock	Period Begin Date	Period End Date	Public Aums
57	Santiago Creek	2,723	M	15	Cattle	3/1	2/28	545
	Santiago Creek		M	15	Cattle	12/1	5/31	0
58	Anderson Canyon	2,120	C	15	Cattle	3/1	2/28	311
59	Loco Bill Canyon	640	I	15	Cattle	4/1	9/30	82
60	Santa Teresa	1,883	M	15	Cattle	3/1	2/28	400
61	Oak Grove	2,901	I	15	Cattle	4/1	9/30	235
62	Curtis Mountain	40	C	15	Cattle	3/1	2/28	13
63	Chico Martinez	8,602	I	15	Cattle	3/1	2/28	1,671
	Chico Martinez		I	15	Cattle	12/1	5/31	0
64	Cedar Canyon	624	C	15	Cattle	10/15	6/30	139
	Cedar Canyon		C	15	Cattle	12/1	5/31	0
65	Packwood	1,155	M	15	Cattle	12/1	5/31	282
	Packwood		M	15	Cattle	3/1	2/28	0
66	Liveoak Canyon	80	C	15				13
68	San Emigdio	650	C	15	Cattle	3/1	2/28	191
71	Rancheria	194	C	15				49
72	Bluestone Ridge	2,673	M	15	Cattle	12/1	6/30	668
73	Chimineas Ranch North	3,949	M	15	Cattle	12/1	5/31	759
74	Freedom Hill	2,278	I	3	Cattle	3/1	5/15	539
75	Kelso Peak	768	M	3	Cattle	2/1	5/15	154
76	Sacatar Meadow	6,320	C	3	Cattle	9/1	10/31	96
77	Walker Pass West	14,566	I	3	Cattle	1/1	6/30	781
78	Airport	967	M	3	Cattle	3/1	5/15	97
79	Fay Canyon	361	C	3	Cattle	3/1	4/30	64
80	Smith Canyon	2,760	M	3				60
81	Nellie's Nipple	3,885	M	3	Cattle	3/15	10/14	528
82	Short Canyon	3,260	I	3	Cattle	2/1	4/30	150
83	Lynch Canyon	510	C	3	Cattle	3/1	4/30	64
84	Cyrus Canyon	67	M	3	Cattle	10/1	5/15	7
85	Cooks Peak	2,111	C	3	Cattle	11/1	5/31	217
86	Cholla Canyon	4,572	M	3	Cattle	10/15	6/30	1,825
87	Havilah Basin	4,862	M	3	Cattle	3/1	2/28	356
	Havilah Basin		M	3	Cattle	5/1	9/30	0
88	Sales Creek	40	C	15	Cattle	3/1	2/28	50
89	Bodfish	114	C	3	Cattle & Horses	3/1	9/30	14
90	Wagy Flat	10,138	M	3	Cattle	2/15	4/30	521
91	Sulphur Ridge	506	C	15	Cattle	3/1	2/28	34
93	Eagle's Nest Peak	680	C	15	Cattle	11/1	5/31	182
94	South Comb Rocks	399	C	15	Cattle	10/1	6/30	100
95	Progress Gulch	480	C	15	Cattle	3/1	6/30	80
96	Maricopa[4]	5,979	I	15	Cattle	12/1	5/31	939
	Maricopa[4]		I	15	Cattle	3/1	2/28	0
97	Mc Van Oil Field	200	C	15	Cattle	3/1	2/28	34
98	Fresno River	160	C	15	Cattle	5/1	10/31	36
99	Bittercreek Drainage	240	C	15	Cattle	3/1	2/28	60
100	Dry Creek	160	C	15	Cattle	3/1	2/28	20
102	Burnt Point	1,493	M	15	Cattle	3/1	2/28	79
103	Milk Ranch Peak	1,652	C	15	Cattle	4/15	9/30	133

Allotment Number	Allotment Name	Public Acres[1]	Mgmt. Status[2]	Type Auth.[3]	Kind Of Stock	Period Begin Date	Period End Date	Public Aums
104	Wash Burn Cove	628	M	15	Cattle	10/1	4/15	118
106	Western Minerals Rd.	1,540	I	15	Cattle	12/1	5/31	308
107	Cienaga Canyon	1,902	M	15	Cattle	12/1	5/31	380
108	Paso Robles	20	C	15	Horses	1/1	3/31	3
111	Sand Canyon	2,702	I	15	Cattle	3/1	2/28	365
113	Johns Peak	1,040	C	15	Cattle	3/1	2/28	168
114	East Klipstein	90	C	15	Cattle	3/1	9/30	18
115	Power Line Road	215	M	15	Sheep	1/1	5/31	36
116	Devils Gulch	600	M	15	Cattle	12/1	5/31	120
117	Red Mountain	7,317	I	15				327
118	Scobie Meadow	6,890	M	3	Cattle	6/1	10/31	182
119	Bald Eagle Peak	2,400	M	3	Cattle	3/1	2/28	168
120	Spanish Needle Creek	3,160	I	3	Cattle	3/15	6/5	40
123	Canebrake	8,238	M	3	Cattle	1/1	6/30	952
124	Long Valley	17,687	M	3	Cattle	10/1	11/30	226
125	Kennedy Lamont	44,296	M	3	Cattle	7/1	9/30	396
126	Lower Kennedy Table	105	M	15	Cattle	9/15	5/31	30
128	Lwr Hiddenvalley Rch	1,331	M	15	Cattle	12/1	5/31	236
129	Big Sandy	813	M	15	Cattle	12/1	5/31	225
130	Smalley Road	540	M	15	Cattle	11/15	5/15	188
136	Fowler Mountain	280	M	15	Cattle	3/1	2/28	120
149	South Fork Kern River	744	C	3	Cattle	11/1	6/30	19
157	Wheeler Ridge	480	C	15	Cattle	12/1	5/31	144
	Wheeler Ridge		C	15	Cattle	3/1	2/28	0
3464	Franciscan	800	M	15	Cattle	3/1	2/28	168
3655	Wood Canyon[4]	204	M	15	Cattle	12/1	5/31	5
3718	Buena Vista	311	M	15	Cattle	3/1	2/28	62
3719	Vista Del Mar	165	C	15				10
3720	Klau Mine	12	C	15				3
3750	San Joaquin River Slope	857	M	15	Cattle	12/1	5/31	240
4309	Surprise Arroyo (~ Portion in BKFO Managed by HFO)	1,300	I	15	Cattle & Sheep	1/1	4/30	~417
5008	Rudnick Common (~ Portion in BKFO Managed by RFO)	7,000	I	3	Cattle	3/1	2/28	~412
								34,056
	Available for application	40,000						6,000
	Estimated potential grazing opportuinity[5]							40,056

[1]Acreage figures in this table are approximate and may not correspond with cumulative totals elsewhere in this document.

[2]C=Continue, M=Moderate, I=Intensive (also see Selective Management Categories in Appendix F-4).

[3]3=Grazing permits issued on public lands within the grazing districts established under the Taylor Grazing Act; 15=Grazing leases on public lands outside the original grazing district boundaries.

[4]Portion of this allotment lies within the Carrizo Plain National Monument.

[5]Total of authorized AUMs and projected future authorized AUMs, under the assumptions that 75% of acres available for application would be authorized and given a stocking rate of 5 acres/AUM.

Red highlight indicates that livestock grazing use of the allotment was modified by the actions of the Alternative compared to the No Action Alternative. The level that is allowed to continue to be authorized on the allotment is shown in the row.

Livestock Grazing Implementation Levels; Alternative C

Allotment Number	Allotment Name	Public Acres[1]	Mgmt. Status[2]	Type Auth.[3]	Kind Of Stock	Period Begin Date	Period End Date	Public Aums
2	Oilfield Road	440	M	15	Sheep	12/1	5/31	73
3	Naval Pet Res. I	1,518	M	15	Sheep	12/1	5/31	253
5	Blossom Peak	80	C	15	Cattle	3/1	6/1	7
6	Cuyama 2	480	C	15	Cattle	3/1	2/28	80
7	Freeborn Mt.	1,804	C	15	Cattle	3/1	2/28	254
8	Pleito Hills	3,423	C	15	Cattle	3/1	2/28	1,028
9	Badger Creek	480	C	15	Cattle	4/1	9/30	90
10	Santa Rita	160	C	15	Cattle	3/1	9/15	16
12	Live Oak Pass	280	C	15	Cattle	6/1	9/30	70
13	Temblor Creek	328	M	15	Cattle	3/1	2/28	82
14	Case Mountain	3,903	I	15	Cattle	10/1	5/31	296
15	North Temblor[4]	34,795	M	15	Cattle	3/1	2/28	7,733
	North Temblor[4]		M	15	Cattle	12/1	5/31	0
	North Temblor (Portion in BKFO Managed by CPNM)	137	M	15	Cattle	3/1	2/28	30
16	Oil Field	4,270	M	15	Sheep	12/1	5/31	303
17	North Fork River	4,839	M	15	Cattle	3/1	2/28	388
19	Buena Vista Creek	720	M	15	Sheep	12/1	5/31	107
20	Elephant Back	80	C	15	Cattle	3/1	2/28	16
21	Frazer Valley	1,694	M	15	Cattle	12/1	5/31	184
23	Hanning Flat West	302	C	3	Cattle	11/1	5/31	30
24	Bear Creek	405	M	15	Cattle	3/1	2/28	10
27	Bitterwater Valley	80	C	15				12
28	Kettleman Hills	5,216	I	15	Cattle	12/1	5/31	1,304
	Kettleman Hills		I	15	Cattle	3/1	2/28	0
30	West Klipstein	561	C	15	Cattle	3/1	2/28	112
32	Hubbard Hill	3,080	C	15	Cattle	3/1	2/28	418
33	Mankins Creek	438	C	15	Cattle	10/1	6/30	74
34	North Comb Rocks	230	C	15				39
35	Red Hill	160	C	15	Cattle	3/1	2/28	3
36	Horn Mountain	1,517	C	15	Cattle	3/1	2/28	65
37	Raven Pass	40	C	15	Cattle	9/1	5/31	12
38	North Naval Petroleum Res.	2,278	I	15				380
39	Chimineas Ranch South[4]	4,982	M	15	Cattle	12/1	5/31	730
40	Rio Bravo	401	C	15	Cattle	3/1	2/28	100
41	Derby Acres	530	C	15				151
42	Jack Canyon	33	C	15	Cattle	3/1	2/28	12
45	Goldpan Canyon	235	I	15	Cattle	3/1	2/28	34
47	Rankin Ranch	867	C	15	Cattle	3/1	2/28	144
48	Mountain Creek	264	C	15	Cattle	3/1	2/28	88
49	Loraine	678	I	15	Cattle	3/1	2/28	113
50	Santa Barbara Canyon	1,734	M	15	Cattle	3/1	2/28	118
51	Studhorse Canyon	498	M	3	Cattle	11/1	5/31	100
52	Thompson Ridge	1,250	M	15	Cattle	5/1	7/31	63
54	Willow Spring Canyon	480	M	15	Cattle	3/1	2/28	96
55	South Mountain	186	C	15	Cattle	3/1	2/28	23
56	Round Mountain Road	160	M	15	Cattle	12/1	5/31	27

Allotment Number	Allotment Name	Public Acres[1]	Mgmt. Status[2]	Type Auth.[3]	Kind Of Stock	Period Begin Date	Period End Date	Public Aums
57	Santiago Creek	2,723	M	15	Cattle	3/1	2/28	545
	Santiago Creek		M	15	Cattle	12/1	5/31	0
58	Anderson Canyon	2,120	C	15	Cattle	3/1	2/28	311
59	Loco Bill Canyon	640	I	15	Cattle	4/1	9/30	82
60	Santa Teresa	1,883	M	15	Cattle	3/1	2/28	400
61	Oak Grove	2,901	I	15	Cattle	4/1	9/30	235
62	Curtis Mountain	40	C	15	Cattle	3/1	2/28	13
63	Chico Martinez	8,602	I	15	Cattle	3/1	2/28	1,671
	Chico Martinez		I	15	Cattle	12/1	5/31	0
64	Cedar Canyon	624	C	15	Cattle	10/15	6/30	139
	Cedar Canyon		C	15	Cattle	12/1	5/31	0
65	Packwood	1,155	M	15	Cattle	12/1	5/31	282
	Packwood		M	15	Cattle	3/1	2/28	0
66	Liveoak Canyon	80	C	15				13
68	San Emigdio	650	C	15	Cattle	3/1	2/28	191
71	Rancheria	194	C	15				49
72	Bluestone Ridge	2,673	M	15	Cattle	12/1	6/30	668
73	Chimineas Ranch North	3,949	M	15	Cattle	12/1	5/31	759
74	Freedom Hill	2,278	I	3	Cattle	3/1	5/15	539
75	Kelso Peak	768	M	3	Cattle	2/1	5/15	154
76	Sacatar Meadow	6,320	C	3	Cattle	9/1	10/31	96
77	Walker Pass West	14,566	I	3	Cattle	1/1	6/30	781
78	Airport	967	M	3	Cattle	3/1	5/15	97
79	Fay Canyon	361	C	3	Cattle	3/1	4/30	64
80	Smith Canyon	2,760	M	3				60
81	Nellie's Nipple	3,885	M	3	Cattle	3/15	10/14	528
82	Short Canyon	3,260	I	3	Cattle	2/1	4/30	150
83	Lynch Canyon	510	C	3	Cattle	3/1	4/30	64
84	Cyrus Canyon	67	M	3	Cattle	10/1	5/15	7
85	Cooks Peak	2,111	C	3	Cattle	11/1	5/31	217
86	Cholla Canyon	4,572	M	3	Cattle	10/15	6/30	1,825
87	Havilah Basin	4,862	M	3	Cattle	3/1	2/28	356
	Havilah Basin		M	3	Cattle	5/1	9/30	0
88	Sales Creek	40	C	15	Cattle	3/1	2/28	50
89	Bodfish	114	C	3	Cattle & Horses	3/1	9/30	14
90	Wagy Flat	4,562	M	3	Cattle	2/15	4/30	234
91	Sulphur Ridge	506	C	15	Cattle	3/1	2/28	34
93	Eagle's Nest Peak	680	C	15	Cattle	11/1	5/31	182
94	South Comb Rocks	399	C	15	Cattle	10/1	6/30	100
95	Progress Gulch	389	C	15	Cattle	3/1	6/30	65
96	Maricopa[4]	5,979	I	15	Cattle	12/1	5/31	939
	Maricopa[4]		I	15	Cattle	3/1	2/28	0
97	Mc Van Oil Field	200	C	15	Cattle	3/1	2/28	34
98	Fresno River	147	C	15	Cattle	5/1	10/31	33
99	Bittercreek Drainage	240	C	15	Cattle	3/1	2/28	60
100	Dry Creek	160	C	15	Cattle	3/1	2/28	20
102	Burnt Point	1,120	M	15	Cattle	3/1	2/28	59
103	Milk Ranch Peak	1,652	C	15	Cattle	4/15	9/30	133

Allotment Number	Allotment Name	Public Acres[1]	Mgmt. Status[2]	Type Auth.[3]	Kind Of Stock	Period Begin Date	Period End Date	Public Aums
104	Wash Burn Cove	628	M	15	Cattle	10/1	4/15	118
106	Western Minerals Rd.	1,540	I	15	Cattle	12/1	5/31	308
107	Cienaga Canyon	1,902	M	15	Cattle	12/1	5/31	380
108	Paso Robles	20	C	15	Horses	1/1	3/31	3
111	Sand Canyon	2,702	I	15	Cattle	3/1	2/28	365
113	Johns Peak	1,040	C	15	Cattle	3/1	2/28	168
114	East Klipstein	90	C	15	Cattle	3/1	9/30	18
115	Power Line Road	215	M	15	Sheep	1/1	5/31	36
116	Devils Gulch	600	M	15	Cattle	12/1	5/31	120
117	Red Mountain	7,317	I	15				327
118	Scobie Meadow	6,890	M	3	Cattle	6/1	10/31	182
119	Bald Eagle Peak	2,400	M	3	Cattle	3/1	2/28	168
120	Spanish Needle Creek	3,160	I	3	Cattle	3/15	6/5	40
123	Canebrake	7,991	M	3	Cattle	1/1	6/30	923
124	Long Valley	17,687	M	3	Cattle	10/1	11/30	226
125	Kennedy Lamont	44,296	M	3	Cattle	7/1	9/30	396
126	Lower Kennedy Table	105	M	15	Cattle	9/15	5/31	30
128	Lwr Hiddenvalley Rch	1,331	M	15	Cattle	12/1	5/31	236
129	Big Sandy	813	M	15	Cattle	12/1	5/31	225
130	Smalley Road	540	M	15	Cattle	11/15	5/15	188
136	Fowler Mountain	280	M	15	Cattle	3/1	2/28	120
149	South Fork Kern River	744	C	3	Cattle	11/1	6/30	19
157	Wheeler Ridge	480	C	15	Cattle	12/1	5/31	144
	Wheeler Ridge		C	15	Cattle	3/1	2/28	0
3464	Franciscan	800	M	15	Cattle	3/1	2/28	168
3655	Wood Canyon[4]	204	M	15	Cattle	12/1	5/31	5
3718	Buena Vista	311	M	15	Cattle	3/1	2/28	62
3719	Vista Del Mar	165	C	15				10
3720	Klau Mine	12	C	15				3
3750	San Joaquin River Slope	857	M	15	Cattle	12/1	5/31	240
4309	Surprise Arroyo (Portion in Bkfo managed by Hfo)	1,300	I	15	Cattle & Sheep	1/1	4/30	~417
5008	Rudnick Common (Portion in Bkfo managed by Rfo)	7,000	I	3	Cattle	3/1	2/28	~412
								32,275
	Available for application	36,700						5,500
	Estimated potential grazing opportuinity[5]							37,775

[1]Acreage figures in this table are approximate and may not correspond with cumulative totals elsewhere in this document.

[2]C=Continue, M=Moderate, I=Intensive (also see Selective Management Categories in Appendix F-4).

[3]3=Grazing permits issued on public lands within the grazing districts established under the Taylor Grazing Act; 15=Grazing leases on public lands outside the original grazing district boundaries.

[4]Portion of this allotment lies within the Carrizo Plain National Monument.

[5]Total of authorized AUMs and projected future authorized AUMs, under the assumptions that 75% of acres available for application would be authorized and given a stocking rate of 5 acres/AUM.

Red highlight indicates that livestock grazing use of the allotment was modified by the actions of the Alternative compared to the No Action Alternative. The level that is allowed to continue to be authorized on the allotment is shown in the row.

Livestock Grazing Implementation Levels; Alternative D

Allotment Number	Allotment Name	Public Acres[1]	Mgmt. Status[2]	Type Auth.[3]	Kind Of Stock	Period Begin Date	Period End Date	Public Aums
15	North Temblor (Portion in BKFO Managed by CPNM)	137	M	15	Cattle	3/1	2/28	30
4309	Surprise Arroyo (~ Portion In BKFO Managed by HFO)	1,300	I	15	Cattle & Sheep	1/1	4/30	~417
5008	Rudnick Common (~ Portion in BKFO Managed by RFO)	7,000	I	3	Cattle	3/1	2/28	~412
								859
	Available for application	0						0
	Estimated potential grazing opportuinity[4]							859

[1]Acreage figures in this table are approximate and may not correspond with cumulative totals elsewhere in this document.
[2]C=Continue, M=Moderate, I=Intensive (also see Selective Management Categories in Appendix F-4).
[3]3=Grazing permits issued on public lands within the grazing districts established under the Taylor Grazing Act; 15=Grazing leases on public lands outside the original grazing district boundaries.
[4]Total of authorized AUMs and projected future authorized AUMs, under the assumptions that 75% of acres available for application would be authorized and given a stocking rate of 5 acres/AUM.

Livestock Grazing Implementation Levels; Alternative E

Allotment Number	Allotment Name	Public Acres[1]	Mgmt. Status[2]	Type Auth.[3]	Kind Of Stock	Period Begin Date	Period End Date	Public Aums
2	Oilfield Road	440	M	15	Sheep	12/1	5/31	73
3	Naval Pet Res. I	1,518	M	15	Sheep	12/1	5/31	253
5	Blossom Peak	80	C	15	Cattle	3/1	6/1	7
6	Cuyama 2	480	C	15	Cattle	3/1	2/28	80
7	Freeborn Mt.	1,804	C	15	Cattle	3/1	2/28	254
8	Pleito Hills	3,423	C	15	Cattle	3/1	2/28	1,028
9	Badger Creek	480	C	15	Cattle	4/1	9/30	90
10	Santa Rita	160	C	15	Cattle	3/1	9/15	16
12	Live Oak Pass	280	C	15	Cattle	6/1	9/30	70
13	Temblor Creek	328	M	15	Cattle	3/1	2/28	82
14	Case Mountain	3,903	I	15	Cattle	10/1	5/31	296
15	North Temblor[4]	34,795	M	15	Cattle	3/1	2/28	7,733
	North Temblor[4]		M	15	Cattle	12/1	5/31	0
	North Temblor (Portion in BKFO Managed by CPNM)	137	M	15	Cattle	3/1	2/28	30
16	Oil Field	4,270	M	15	Sheep	12/1	5/31	303
17	North Fork River	5,693	M	15	Cattle	3/1	2/28	456
19	Buena Vista Creek	720	M	15	Sheep	12/1	5/31	107
20	Elephant Back	80	C	15	Cattle	3/1	2/28	16
21	Frazer Valley	1,694	M	15	Cattle	12/1	5/31	184
23	Hanning Flat West	739	C	3	Cattle	11/1	5/31	74
24	Bear Creek	405	M	15	Cattle	3/1	2/28	10
27	Bitterwater Valley	80	C	15				12
28	Kettleman Hills	5,216	I	15	Cattle	12/1	5/31	1,304
	Kettleman Hills		I	15	Cattle	3/1	2/28	0
30	West Klipstein	561	C	15	Cattle	3/1	2/28	112
32	Hubbard Hill	3,080	C	15	Cattle	3/1	2/28	418
33	Mankins Creek	476	C	15	Cattle	10/1	6/30	80
34	North Comb Rocks	230	C	15				39
35	Red Hill	160	C	15	Cattle	3/1	2/28	3
36	Horn Mountain	1,517	C	15	Cattle	3/1	2/28	65
37	Raven Pass	40	C	15	Cattle	9/1	5/31	12
38	North Naval Petroleum Res.	2,278	I	15				380
39	Chimineas Ranch South[4]	4,982	M	15	Cattle	12/1	5/31	730
40	Rio Bravo	401	C	15	Cattle	3/1	2/28	100
41	Derby Acres	530	C	15				151
42	Jack Canyon	33	C	15	Cattle	3/1	2/28	12
45	Goldpan Canyon	470	I	15	Cattle	3/1	2/28	84
47	Rankin Ranch	867	C	15	Cattle	3/1	2/28	144
48	Mountain Creek	264	C	15	Cattle	3/1	2/28	88
49	Loraine	678	I	15	Cattle	3/1	2/28	113
50	Santa Barbara Canyon	1,734	M	15	Cattle	3/1	2/28	118
51	Studhorse Canyon	498	M	3	Cattle	11/1	5/31	100
52	Thompson Ridge	1,250	M	15	Cattle	5/1	7/31	63
54	Willow Spring Canyon	480	M	15	Cattle	3/1	2/28	96
55	South Mountain	186	C	15	Cattle	3/1	2/28	23
56	Round Mountain Road	160	M	15	Cattle	12/1	5/31	27

Allotment Number	Allotment Name	Public Acres[1]	Mgmt. Status[2]	Type Auth.[3]	Kind Of Stock	Period Begin Date	Period End Date	Public Aums
57	Santiago Creek	2,723	M	15	Cattle	3/1	2/28	545
	Santiago Creek		M	15	Cattle	12/1	5/31	0
58	Anderson Canyon	2,120	C	15	Cattle	3/1	2/28	311
59	Loco Bill Canyon	640	I	15	Cattle	4/1	9/30	82
60	Santa Teresa	1,883	M	15	Cattle	3/1	2/28	400
61	Oak Grove	2,901	I	15	Cattle	4/1	9/30	235
62	Curtis Mountain	40	C	15	Cattle	3/1	2/28	13
63	Chico Martinez	8,602	I	15	Cattle	3/1	2/28	1,671
	Chico Martinez		I	15	Cattle	12/1	5/31	0
64	Cedar Canyon	624	C	15	Cattle	10/15	6/30	139
	Cedar Canyon		C	15	Cattle	12/1	5/31	0
65	Packwood	1,155	M	15	Cattle	12/1	5/31	282
	Packwood		M	15	Cattle	3/1	2/28	0
66	Liveoak Canyon	80	C	15				13
68	San Emigdio	650	C	15	Cattle	3/1	2/28	191
71	Rancheria	194	C	15				49
72	Bluestone Ridge	2,673	M	15	Cattle	12/1	6/30	668
73	Chimineas Ranch North	3,949	M	15	Cattle	12/1	5/31	759
74	Freedom Hill	2,278	I	3	Cattle	3/1	5/15	539
75	Kelso Peak	768	M	3	Cattle	2/1	5/15	154
76	Sacatar Meadow	6,320	C	3	Cattle	9/1	10/31	96
77	Walker Pass West	14,566	I	3	Cattle	1/1	6/30	781
78	Airport	1,671	M	3	Cattle	3/1	5/15	167
79	Fay Canyon	361	C	3	Cattle	3/1	4/30	64
80	Smith Canyon	2,760	M	3				60
81	Nellie's Nipple	3,885	M	3	Cattle	3/15	10/14	528
82	Short Canyon	3,260	I	3	Cattle	2/1	4/30	150
83	Lynch Canyon	510	C	3	Cattle	3/1	4/30	64
84	Cyrus Canyon	2,234	M	3	Cattle	10/1	5/15	225
85	Cooks Peak	2,111	C	3	Cattle	11/1	5/31	217
86	Cholla Canyon	4,572	M	3	Cattle	10/15	6/30	1,825
87	Havilah Basin	4,862	M	3	Cattle	3/1	2/28	356
	Havilah Basin		M	3	Cattle	5/1	9/30	0
88	Sales Creek	40	C	15	Cattle	3/1	2/28	50
89	Bodfish	114	C	3	Cattle & Horses	3/1	9/30	14
90	Wagy Flat	10,138	M	3	Cattle	2/15	4/30	521
91	Sulphur Ridge	506	C	15	Cattle	3/1	2/28	34
93	Eagle's Nest Peak	680	C	15	Cattle	11/1	5/31	182
94	South Comb Rocks	399	C	15	Cattle	10/1	6/30	100
95	Progress Gulch	480	C	15	Cattle	3/1	6/30	80
96	Maricopa[4]	5,979	I	15	Cattle	12/1	5/31	939
	Maricopa[4]		I	15	Cattle	3/1	2/28	0
97	Mc Van Oil Field	200	C	15	Cattle	3/1	2/28	34
98	Fresno River	160	C	15	Cattle	5/1	10/31	36
99	Bittercreek Drainage	240	C	15	Cattle	3/1	2/28	60
100	Dry Creek	160	C	15	Cattle	3/1	2/28	20
102	Burnt Point	1,493	M	15	Cattle	3/1	2/28	79

Allotment Number	Allotment Name	Public Acres[1]	Mgmt. Status[2]	Type Auth.[3]	Kind Of Stock	Period Begin Date	Period End Date	Public Aums
103	Milk Ranch Peak	1,652	C	15	Cattle	4/15	9/30	133
104	Wash Burn Cove	628	M	15	Cattle	10/1	4/15	118
106	Western Minerals Rd.	1,540	I	15	Cattle	12/1	5/31	308
107	Cienaga Canyon	1,902	M	15	Cattle	12/1	5/31	380
108	Paso Robles	20	C	15	Horses	1/1	3/31	3
111	Sand Canyon	2,702	I	15	Cattle	3/1	2/28	365
113	Johns Peak	1,040	C	15	Cattle	3/1	2/28	168
114	East Klipstein	90	C	15	Cattle	3/1	9/30	18
115	Power Line Road	215	M	15	Sheep	1/1	5/31	36
116	Devils Gulch	600	M	15	Cattle	12/1	5/31	120
117	Red Mountain	7,317	I	15				327
118	Scobie Meadow	6,890	M	3	Cattle	6/1	10/31	182
119	Bald Eagle Peak	2,400	M	3	Cattle	3/1	2/28	168
120	Spanish Needle Creek	3,160	I	3	Cattle	3/15	6/5	40
123	Canebrake	8,238	M	3	Cattle	1/1	6/30	952
124	Long Valley	17,687	M	3	Cattle	10/1	11/30	226
125	Kennedy Lamont	44,296	M	3	Cattle	7/1	9/30	396
126	Lower Kennedy Table	105	M	15	Cattle	9/15	5/31	30
128	Lwr Hiddenvalley Rch	1,331	M	15	Cattle	12/1	5/31	236
129	Big Sandy	813	M	15	Cattle	12/1	5/31	225
130	Smalley Road	540	M	15	Cattle	11/15	5/15	188
136	Fowler Mountain	280	M	15	Cattle	3/1	2/28	120
149	South Fork Kern River	744	C	3	Cattle	11/1	6/30	19
157	Wheeler Ridge	480	C	15	Cattle	12/1	5/31	144
	Wheeler Ridge		C	15	Cattle	3/1	2/28	0
3464	Franciscan	800	M	15	Cattle	3/1	2/28	168
3655	Wood Canyon[4]	204	M	15	Cattle	12/1	5/31	5
3718	Buena Vista	311	M	15	Cattle	3/1	2/28	62
3719	Vista Del Mar	165	C	15				10
3720	Klau Mine	12	C	15				3
3750	San Joaquin River Slope	857	M	15	Cattle	12/1	5/31	240
4309	Surprise Arroyo (~ Portion in BKFO Managed by HFO)	1,300	I	15	Cattle & Sheep	1/1	4/30	~417
5008	Rudnick Common (~ Portion in BKFO Managed by RFO)	7,000	I	3	Cattle	3/1	2/28	~412
								34,388
	Available for application	52,400						7,900
	Estimated potential grazing opportuinity[5]							42,288

[1]Acreage figures in this table are approximate and may not correspond with cumulative totals elsewhere in this document.
[2]C=Continue, M=Moderate, I=Intensive (also see Selective Management Categories in Appendix F-4).
[3]3=Grazing permits issued on public lands within the grazing districts established under the Taylor Grazing Act; 15=Grazing leases on public lands outside the original grazing district boundaries.
[4]Portion of this allotment lies within the Carrizo Plain National Monument.
[5]Total of authorized AUMs and projected future authorized AUMs, under the assumptions that 75% of acres available for application would be authorized and given a stocking rate of 5 acres/AUM.
Red highlight indicates that livestock grazing use of the allotment was modified by the actions of the Alternative compared to the No Action Alternative. The level that is allowed to continue to be authorized on the allotment is shown in the row.

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APPENDIX G

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G.1 BUREAU OF LAND MANAGEMENT-ENERGY AND MINERAL POLICY

This statement sets forth the Bureau of Land Management (BLM) policy for the management of energy and mineral resources on public lands, a component of the agency's multiple use mandate. The BLM seeks to implement its multiple use mission to balance various uses to achieve healthy and productive landscapes, including the development of energy and minerals in an environmentally sound manner.

This Energy and Mineral Policy reflects the provisions of six important acts of Congress relating to conventional, alternative, and renewable energy, and mineral resources, as follows:

The Domestic Minerals Program Extension Act of 1953 states that each department and agency of the Federal Government charged with responsibilities concerning the discovery, development, production, and acquisition of strategic or critical minerals and metals shall undertake to decrease further, and to eliminate wherever possible, the dependency of the United States on foreign sources of supply of such material.

The Mining and Minerals Policy Act of 1970 declares that it is the continuing policy of the Federal Government to foster and encourage private enterprise in the development of a stable domestic minerals industry and the orderly and economic development of domestic mineral resources. This act includes all minerals, including sand and gravel, geothermal, coal, and oil and gas.

The Federal Land Policy and Management Act of 1976 reiterates that the 1970 Mining and Minerals Policy Act shall be implemented and directs that public lands be managed in a manner that recognizes the Nation's need for domestic sources of minerals and other resources. It also mandates that "scarcity of values" be considered in land use planning.

The National Materials and Minerals Policy, Research and Development Act of 1980 requires the Secretary of the Interior to improve the quality of minerals data in Federal land use decision-making.

The Energy Policy Act of 2005 encourages energy efficiency and conservation, promotes alternative and renewable energy sources, reduces dependence on foreign sources of energy, increases domestic production, modernizes the electrical grid, and encourages the expansion of nuclear energy.

The Energy Independence and Security Act of 2007 to move the United States toward greater energy independence, to increase the production of clean renewable fuels, and support modernization of the nation's electricity transmission and distribution system.

The BLM recognizes that public lands are an important source of the Nation's energy and mineral resources, including renewable energy resources such as geothermal, wind, solar, and

biomass. The public lands are also important for the siting of infrastructure facilities to support the development of energy and minerals resources. The BLM makes public lands available for orderly and efficient development of these resources under the principles of Multiple Use Management, and the concept of Sustainable Development as was defined at the World Summit on Sustainable Development in 2002, in Johannesburg, South Africa, where 192 countries, including the United States, endorsed its resolution on minerals.

The following principles will guide the BLM in managing energy and mineral resources on public lands:

1 The BLM land use planning and multiple-use management decisions will recognize that energy and mineral development can occur concurrently or sequentially with other resource uses, providing that appropriate stipulations or conditions of approval are incorporated into authorizations to prevent unnecessary or undue degradation, reduce environmental impacts, and prevent a jeopardy opinion.

2 Land use plans will incorporate and consider energy and geological assessments as well as energy and mineral potential on public lands through existing energy, geology and mineral resource data, and to the extent feasible, through new mineral assessments to determine mineral potential. Partnerships with the National Renewable Energy Laboratory, Federal and State agencies, such as the U.S. Geological Survey and State Geologists, to obtain existing and new data will be considered.

3. Withdrawals and other closures of the public land must be justified in accordance with the Department of the Interior Land Withdrawal Manual 603 DM 1 and the BLM regulations at 43 CFR 2310. Petitions to the Secretary of the Interior for revocation of land withdrawals in favor of energy and mineral development will be evaluated through the land use planning process.

4. The BLM will work cooperatively with surface owners and mineral operators in recognizing their rights on split-estate lands. In the absence of a Surface Owner Agreement and in managing development of the Federal mineral estate on a nonfederal surface, the BLM will take into consideration surface owner mitigation requests from pre-development to final reclamation.

5. The BLM endorses Sustainable Development that encourages Social, Environmental, and Economic considerations before decisions are made on energy and mineral operations. The BLM actively encourages private industry development of public land energy and mineral resources, and promotes practices and technology that least impact natural and human resources.

6. The BLM will adjudicate and process energy and mineral applications, permits, operating plans, leases, rights-of-ways, and other land use authorizations for public lands in a timely

and efficient manner and in a manner to prevent unnecessary or undue degradation. The BLM will require financial assurances, including long-term trusts, to provide for reclamation of the land and for other purposes authorized bylaw. Prior to mine closure, reclamation considerations should include partnerships to utilize the existing mine infrastructure for future economic opportunities such as landfills, wind farms, biomass facilities, and other industrial uses.

7. Energy and mineral-related permit applications will be reviewed consistent with the requirements of NEPA and other environmental laws. The BLM will work closely with Federal, State and Tribal governments to reduce duplication of effort while processing energy and mineral-related permit applications.

8. The BLM will monitor locatable, salable and leasable mineral operations and energy operations to ensure proper resource recovery and evaluation, production verification, diligence, and enforcement of terms and conditions. The United States will receive market value for its energy and mineral resources unless otherwise provided by statute, and royalty rates will be monitored and evaluated to protect the public interest.

9. The BLM will continue to develop e-Government solutions that will provide for electronic submission and tracking of applications and the use of GIS technology to support development of energy and mineral resources. The BLM will continue to provide public access to current mineral records, including spatial display of all types of authorizations and mineral resource and ownership data. Data systems, such as LR 2000, will be kept current and best management practices sought to reduce backlogs and to identify errors.

10. The BLM will strive to maintain a professional workforce in adjudication, energy, geology, and engineering to support energy and mineral development.

11. To the extent provided by law, regulation, secretarial order, and written agreement with the Bureau of Indian Affairs, the BLM will apply the above principles to the management of mineral resources and operations on Indian Trust lands in order to comply with its Trust Responsibilities.

James Caswell Director August 2008

G.2 OIL/GAS, GEOTHERMAL, AND SOLID MINERALS LEASE STIPULATIONS AND GUIDELINES

G.2.1 INTRODUCTION

Allocations proposed under this plan identify lands open for and closed to leasing for oil, gas and geothermal resources. In addition, for lands open to leasing, the plan identifies proposed stipulations to be associated with the lease.

Virtually all of the leases issued in accordance with this RMP are expected to be for oil and gas leases, so these stipulations were designed for oil and gas leases. However, there may be rare instances where geothermal or solid mineral leases are issued. If that occurs, the same general stipulations may be applicable with identical or slightly modified wording.

Public lands that are closed to leasing are subdivided into two groups. Tracts that have been closed by previous legislation or secretarial policy form one group of lands and are known as *non-discretionary closures*. The second group of closed lands consisting of those proposed for closure under this plan is called *proposed discretionary closures.*

Lands open to oil and gas leasing are subdivided into the following groups: (1) open to leasing under a standard lease stipulation; (2) open to leasing under a no surface use stipulation; and (3) open to leasing under a controlled surface use stipulation. The standard oil and gas lease form includes those preprinted lease terms and conditions that apply to all leases. Other stipulations developed in this plan are applied in lease areas with special resource concerns and supersede any inconsistent provisions of the standard lease form. The special stipulations proposed in this plan address no surface occupancy for areas where very unique resources exist, and controlled surface use for areas with resource protection needs slightly different from the standard lease stipulation.

G.2.2 LANDS CLOSED TO OIL AND GAS LEASING

Non-Discretionary Closures to Leasing

The 1920 Mineral Leasing Act, as amended, authorizes the Secretary of the Interior to lease Federal oil and gas resources on public domain and acquired lands. Federal minerals excluded from such leasing by legislation or secretarial policy include those underlying units of the National Park System, National Wildlife Refuges, Native American reservations, incorporated cities, and lands closed under previous land use decisions. Lands recommended for wilderness designation, wilderness study, or already within the National Wilderness Preservation System are also non-discretionary closures by existing legislation. Non-discretionary closures are discussed under the general framework of the Bakersfield Resource Management Plan for reference purposes but are not part of the Plan's land use allocation scope and purpose.

Lands Proposed for Discretionary Closures to Leasing

Discretionary closures to oil, gas and geothermal leasing are proposed by the land allocations in this plan. These proposals include areas of extreme resource sensitivity (e.g., some ACECs) requiring a level of protection that may only be achieved through closure to leasing activities.

G.2.3 Lands Open to Oil and Gas Leasing

The remainder of the public land and federally reserved mineral estate within the Decision Area are open for oil and gas leasing. As parcels are offered for leasing, lease stipulations will be applied based on the allocations and analysis in this RMP. As described above these lands would be subject to three categories of lease stipulations:

G.3 Leasing with Standard Lease Stipulation

The standard lease stipulation includes the terms and conditions that are the national standards printed on BLM lease forms (form 3100-11, Oct. '08).

Under standard terms, exploration and development operations must be conducted in a manner that minimizes adverse impacts to the land, air, and water, to cultural biological, visual, and other resources, and to other land uses and users. The lessee must take reasonable measures deemed necessary by the BLM to minimize adverse impacts. These measures may include modification of siting (less than 200 meters (656 feet)) or design of facilities, timing of operations (delaying the project less than 60 days in one lease year), and specification of interim and final reclamation measures (43 CFR 3101.1-2).

G.4 Leasing with No Surface Occupancy (NSO) Stipulation

G.4.1 NSO-General

Stipulation: *All or a portion of this lease has been identified by the current RMP (e.g., ACECs and areas of ecological importance with this stipulation prescribed) as containing unique or significant natural or cultural values. No new surface disturbing activity is allowed on the lease.*

Objective: *To minimize or eliminate adverse effects on unique or significant natural and cultural resources that are incompatible with fluid mineral development.*

Exception: *The Authorized Officer may grant an exception if, after coordination with appropriate agency (e.g., CDFG, SHPO, and USFWS), an environmental review determines the action as proposed or conditioned would not impair the values present because of temporary conditions.*

Modification: *The Authorized Officer may modify this stipulation to allow surface use on a portion or even all of the lease if an environmental review determines the action as proposed or conditioned would not impair the values present.*

Waiver: *The Authorized Officer may grant a waiver if an environmental review determines the values for which the NSO was applied no longer exist.*

Additional Information

Application—The NSO-General stipulation would be applied when adequate protection of surface resources cannot be provided through mitigation, and fluid mineral development of the lease from an off-site location is recommended. If there is no surface location available for directional drilling, the land would not be leased.

Review Process—Any proposed surface-disturbing activity would be reviewed to determine whether it is in compliance with the NSO stipulation. If the review determines the proposed action would not impair the values present and would be consistent with the management of the ACEC or area of ecological importance, exception or modification may be granted. Any decision to grant an exception or modification would be based on field inspection and inventory and the NEPA review process.

G.4.2 NSO-Bitter Creek ACEC

Stipulation: *All or a portion of this lease occurs within the boundaries of the Bitter Creek ACEC and the Bitter Creek National Wildlife Refuge. No new surface disturbing activity is allowed on the lease. Furthermore, access to federal minerals within the lease will only be allowed from off-site sources not within the Bitter Creek National Wildlife Refuge boundary.*

Objective: *To prevent or reduce disturbance to current or future refuge resources from fluid mineral development.*

Exception: *The Authorized Officer may grant an exception if, after coordination with USFWS, an environmental review determines the action as proposed or conditioned would not impair the values present and is consistent with the management of the National Wildlife Refuge.*

Modification: *The Authorized Officer may modify this stipulation to allow surface use on a portion or the entire lease if, after coordination with USFWS, an environmental review determines the action as proposed or conditioned would not impair the values present and is consistent with the management of the National Wildlife Refuge.*

Additional Information

Application—The NSO-Bitter Creek stipulation would be applied to all leases within the boundary of the Bitter Creek National Wildlife Refuge. Furthermore, access to federal minerals within the lease will only be allowed from off-site sources not within the Refuge boundary. If all of the surrounding land is also within the Refuge boundary, and there is no other surface location available for directional drilling, the land would not be leased.

Review Process—Any proposed surface-disturbing activity would be reviewed to determine whether it is in compliance with the NSO stipulation. If the review determines the proposed action would not impair the values present and would be consistent with the management of the Refuge

and ACEC, exception or modification may be granted in coordination with the USFWS. Any decision to grant an exception or modification would be based on field inspection and inventory and the NEPA review process.

G.4.3 NSO-Compensation Lands ACEC

Stipulation: *All or a portion of this lease occurs within the boundaries of the Compensation Lands ACEC. These lands may have a governing document that prohibits certain activities. No new surface disturbing activity is allowed on the lease. Furthermore, access to federal minerals within the lease will only be allowed from off-site sources not considered to be compensation lands (e.g., compensation land in private ownership).*

Objective: *To minimize or eliminate adverse effects associated with fluid mineral development on lands acquired as compensation land.*

Exception: *The Authorized Officer may grant an exception if, after coordination with appropriate agency (e.g., CDFG and USFWS), an environmental review determines the action as proposed or conditioned would not impair the values present and is consistent with the document that established the compensation land.*

Modification: *The Authorized Officer may modify this stipulation to allow surface use on a portion or the entire lease if, after coordination with appropriate agency (e.g., CDFG and USFWS), an environmental review determines the action as proposed or conditioned would not impair the values present and is consistent with the document that established the compensation land.*

Additional Information

Application—The NSO-Compensation Lands stipulation would be applied to all new leases within the Compensation Lands ACEC. Furthermore, access to federal minerals within the lease will only be allowed from off-site sources that are not Compensation Lands. If all of the surrounding land is also Compensation Lands, and there is no other surface location available for directional drilling, the land would not be leased.

Review Process—Any proposed surface-disturbing activity would be reviewed to determine whether it is in compliance with the NSO stipulation. If the review determines the proposed action would not impair the values present and would be consistent with the management of the ACEC and the document that established the Compensation Lands; exception or modification may be granted in coordination with the USFWS. Any decision to grant an exception or modification would be based on field inspection and inventory and the NEPA review process.

G.5 Leasing with the Controlled Surface Use (CSU) Stipulation

Special stipulations may be proposed for use to protect unique resources or values where it may be necessary to modify surface activities beyond authorities contained under the standard lease terms (43 CFR 3103.1-3). The Controlled Surface Use Stipulation allows BLM, in consultation with the applicant, to extend modification of development proposals beyond the standard 200 meters and 60

day conditions. By reserving the additional leeway in siting facilities, the BLM and applicant can generally use the combination of increased siting and timing flexibility to modify development proposals to entirely avoid or significantly minimize surface disturbing effects associated with lease development. The Controlled Surface Use stipulation thus allows BLM to offer for lease parcels known to or suspected to contain unique resources or values and resolve any potential conflicts at the time when the lessee is prepared to design development proposals. Historically the BLM in cooperation with the lessee has been able to find sufficient flexibility in designing lease development proposals, even in the most sensitive of locations, to facilitate development without adversely affecting the resource values.

Exceptions, waivers, or modifications to lease stipulations provide an effective means of applying "adaptive management" techniques to fluid mineral leases and associated permitting activities to meet changing circumstances. An operator may also request that the BLM waive (permanently remove), except (case-by-case exemption) or modify (permanently change) a lease stipulation for a Federal lease. A request to waive, except, or modify a stipulation should also include information demonstrating that the factors leading to its inclusion in the lease have (1) changed sufficiently to make the protection provided by the stipulation no longer justified or (2) that the proposed operation would not cause unacceptable impacts. Public notification and 30-day review may be required for exceptions, waivers, or modifications that involve an issue of major concern to the public. Documentation requirements would follow those outlined in 43 CFR 3101.1-4.

Special conditions that may be attached to new leases issued in the Bakersfield Field Office are collectively referred to as the Controlled Surface Use (CSU) stipulation and supersede any inconsistent provisions of the standard lease form. The wording of the Controlled Surface Use stipulation has been adjusted to address ten differing resource concerns. The Controlled Surface Use Stipulation would be applied to the lease parcels as described below.

G.5.1 CSU-DEFENSE

Stipulation: *All or a portion of this lease contains federal mineral estate under the surface administration of the Department of Defense. Surface disturbing activities may be moved, modified, or prohibited at the discretion of the Base Commander(s) to ensure these activities do not interfere with military activity on the base and to ensure personnel safety. Furthermore, processing times for proposed actions may be delayed beyond established standards to accommodate review and coordination with the Base Commander(s).*

Objective: *To minimize or eliminate conflict between fluid mineral development and military base operations.*

Waiver: *The Authorized Officer may grant a waiver if the surface administration changes from the Department of Defense to another entity.*

Additional Information

Application—The CSU-Defense stipulation would be applied to federal reserved mineral estate under the surface administration of the Department of Defense. Approximately 69,700 acres are

affected, including Point Mugu, Port Hueneme, San Nicholas Island, Vandenberg Air Force Base, Camp Roberts, and Lemoore Naval Air Station. Coordination with local government agencies regarding the development of stipulations would be at the discretion of the base commander.

When a tract of land on a military installation is nominated for lease sale, the applicant would be notified that a legal description of the tract of interest has been forwarded to the attention of the base commander. The base commander would respond to the BLM with the recommended wording of the CSU-Defense stipulation. The wording would vary based on the base mission and would be applied to the entire military installation or to a limited portion of the parcel, at the discretion of the base commander. The BLM may alternatively identify in advance of lease sale offerings the terms and conditions applicable to military installations and thus be able to offer the leases for bid with advance disclosure of the terms and conditions.

Review Process—Generally, the following procedure would be used to approve surface-disturbing activities on leases with the CSU-Defense stipulation. The proposed activity would be reviewed to determine if the mission of the military installation would be affected. The review process would involve meetings coordinated by the BLM between the lessee and the representatives of the military base to determine impacts and potential effects.

Approval—If the review determines that the mission of the military installation would not be affected Bureau approval of the proposed activity would normally be granted within 30 days of the review. If the review determines that the mission of the military installation would be adversely affected, the BLM would coordinate with the Base Commander and the applicant to modify the proposal. Modifications may include movement of activities, seasonal restrictions, mitigation and/or compensation. Modified proposals would be developed cooperatively with the applicant to ensure that the modified project still meets the applicant's objective.

G.5.2 CSU-PROTECTED SPECIES

Stipulation: *All or a portion of the lease occurs within the range of one or more plant or animal species that are either listed or proposed for listing as threatened or endangered by the USFWS. A list of such species will be provided at the time of leasing and updated as necessary over the term of the lease. To determine whether species on this list or their habitat are present, a preliminary environmental review will be conducted for all surface disturbing activities. Presence of habitat or species may result in the proposed action being moved, modified, or delayed to mitigate project effects. Offsite compensation that would satisfactorily offset the loss of habitat may be required. Prohibition of all surface disturbing activities on the lease will only occur as needed to avoid jeopardizing the continued existence of a listed or proposed species, or when the proposed action is inconsistent with the recovery needs of a species as identified in an approved USFWS Recovery Plan through consultation with USFWS. Furthermore, processing times for proposed actions may be delayed beyond established standards to accommodate species surveys, and consultation or conferencing with the USFWS. This stipulation shall not be waived.*

Objective: *To minimize or eliminate adverse effects associated with fluid mineral development on federally proposed and listed species.*

Exception: *The Authorized Officer may grant an exception if an environmental review determines the action as proposed or conditioned would have no effect on listed or proposed species.*

Modification: *The Authorized Officer may modify this stipulation to reflect new information with regard to the range of listed or proposed species through the expansion or reduction of lands subject to this stipulation for a specific species.*

Additional Information

Application—At the time of leasing, the CSU-Protected Species stipulation would be attached to all leases within the range of federally listed or proposed species. A list of protected species found within the Field Office boundary would be included with the stipulation for each lease at the time of leasing. This list may be updated at the time of APD/NOS submittal.

Review Process—Generally, the following process would be used to approve surface-disturbing activities on leases with the CSU-Protected Species stipulation. The proposed activity would be reviewed to determine if listed or proposed species would be affected. This review may involve site-specific surveys for plant and animal species conducted according to established methods that may specify certain seasons or other conditions. In some cases, this may mean that a survey cannot be completed until the next growing season for some plant species or after seasonal appearance for some animal species.

If the review determines that listed or proposed species would not be affected, an exception to the stipulation and approval of the application would normally be granted within 30 days of the review.

If the review were to determine that listed or proposed species may be affected, but in a beneficial, insignificant, or benign manner, and written concurrence is received from the USFWS, approval of the application would normally be granted within 30 days of receiving USFWS concurrence. There is no regulatory timeframe for USFWS to provide their written concurrence.

If it is determined that a listed or proposed species may be adversely affected, the BLM would work with the applicant to modify the proposal to minimize impacts. Modifications may include movement of activities, seasonal restrictions, mitigation, or compensation. Modified proposals would be developed with the applicant to ensure that the modified project still meets the applicant's objective. If the modified project would still adversely affect a listed or proposed species, the BLM would begin formal consultation or conference with the USFWS.

Coordination with the USFWS on Listed Species—Currently there are two options for meeting the formal consultation requirement. A new consultation may be initiated or a previously completed formal consultation may be used.

If a new consultation were initiated, the USFWS would issue a document, called the biological opinion. The USFWS has up to 135 days to complete a biological opinion, and it may request a 60-day extension. Extensions beyond 195 days require the consent of an applicant.

A previously completed formal consultation may also be used to meet the formal consultation requirement. An example of previously completed consultation that may be used is the *San Joaquin Valley Oil and Gas Programmatic Biological Opinion.*

Upon completion of a new consultation or determination that a previously completed consultation can be used, approval of the application will normally be granted within 30 days. If the new consultation concludes that a listed species may be jeopardized, then surface disturbance will be prohibited on the lease. Surface disturbance will also be prohibited if the consultation concludes that the proposed action is inconsistent with the recovery needs of the listed species as identified in an approved USFWS Recovery Plan.

Coordination with the USFWS on Proposed Species—BLM policy requires a conferencing with the USFWS on any action that may adversely affect proposed species. Depending on the complexity of the situation, a conference may be completed in a single telephone conversation or may require the time frames of a consultation. Generally, on completion of the conference, approval of the application will be granted within 30 days.

If the conference were to show that a proposed species may be jeopardized, surface-disturbing activities would be prohibited on the lease.

Final Approval—Final approval of applications that would have no effect on listed or proposed species would normally be granted within 30 days of the review.

Final approval for projects that may affect listed or proposed species in a beneficial, insignificant, or benign manner would normally be granted within 30 days of receiving USFWS written concurrence.

For projects that require consultation or conference with the USFWS, final approval would normally be granted within 30 days of consultation or conference completion. Conditions of approval would include any conditions specified by the BLM or USFWS for minimizing impacts.

G.5.3 CSU-CRITICAL HABITAT

Stipulation: *All or a portion of this lease lies within an area that is designated as critical habitat, or is proposed for designation as critical habitat by the USFWS. A list of these areas affecting this lease will be provided at the time of leasing and will be updated as necessary over the term of the lease. Any proposed surface disturbing activity occurring on the affected portions of this lease will be reviewed to determine if the activity would affect designated or proposed critical habitat. Determination of effects to designated or proposed critical habitat may result in the proposed action being moved, modified, seasonally restricted, or delayed. Consultation or conference with the USFWS is required if designated or proposed critical habitat may be affected. Off-site compensation that would satisfactorily offset the loss of habitat may be required. Prohibition of all surface disturbing activities on the lease will only occur as needed to avoid destroying or adversely modifying critical habitat or proposed critical habitat, or when the proposed action is inconsistent with the recovery needs identified in an approved USFWS Recovery Plan based on consultation with USFWS. Furthermore, processing times for proposed actions may be delayed beyond established standards to accommodate species surveys, and consultation or conferencing with the USFWS. This stipulation shall not be waived.*

Objective: *To minimize or eliminate adverse effects associated with fluid mineral development on habitat designated as critical, or is proposed for designation as critical habitat by the USFWS.*

Exception: *The Authorized Officer may grant an exception if an environmental review determines the action as proposed or conditioned would have no effect on critical habitat or proposed critical habitat.*

Modification: *The Authorized Officer may modify this stipulation to reflect new information with regard to the critical habitat or proposed critical habitat through the expansion or reduction of lands subject to this stipulation for a specific species.*

Additional Information

Application—The CSU-Critical Habitat stipulation would be applied to leases in areas that are designated as critical habitat or that are proposed for designation as critical habitat for certain species. A list of species and parcels would be included with the stipulation for each lease. The USFWS designates or proposes critical habitat according to the regulations found in 50 CFR 424. Critical habitat is one of the following:

- Specific areas within the geographical area currently occupied by a species, at the time it is listed in accordance with the Endangered Species Act, on which are found those physical or biological features (i) essential to the conservation of the species and (ii) that may require special management considerations or protection, and
- Specific areas outside the geographical area occupied by a species at the time it is listed upon a determination by the Secretary that such areas are essential for conservation of the species (50 CFR 424.02).

Review Process—Generally, the following process would be used to approve surface-disturbing activities on leases with the CSU-Critical Habitat stipulation. The proposed activity would be reviewed to determine if designated or proposed critical habitat would be affected. This review may involve site-specific surveys for plant and animal species, conducted according to established methods, which may specify certain seasons or other conditions. In some cases this may mean that a survey cannot be completed until the next growing season for some plant species or after seasonal appearance for some animal species.

If the review determines that designated or proposed critical habitat will not be affected, an exception to the stipulation would be granted, and approval of the application will normally be granted within 30 days of the review.

If the review determines that designated or proposed critical habitat may be affected, but in a beneficial, insignificant, or benign manner, and written concurrence is received from the USFWS, the application would normally be approved within 30 days of receiving USFWS concurrence. There is no regulatory timeframe for USFWS to provide their written concurrence.

If it is determined that designated or proposed critical habitat may be adversely affected, BLM would work with the applicant to modify the proposal to minimize impacts. Modifications may include

relocating activities, seasonal restrictions, mitigation, and compensation. Modified proposals would be developed with the applicant to ensure that the modified project still meets the applicant's objective. If the modified project were to still adversely affect designated or proposed critical habitat, the BLM would initiate formal consultation or conference with the USFWS.

Coordination with the USFWS on Designated Critical Habitat—The BLM is required to initiate formal consultation with the USFWS for any action that may affect designated critical habitat. As a result of the consultation, the USFWS would issue a biological opinion within 135 days, and it may request a 60-day extension. Extensions beyond 195 days require the consent of an applicant.

As part of the biological opinion, the USFWS would determine if the proposed action would be likely to destroy or adversely modify critical habitat. Destruction or adverse modification of critical habitat means a direct or indirect alteration that appreciably diminishes the value of critical habitat for both the survival and recovery of a listed species. Such alterations include those adversely modifying any of the physical or biological features that were the basis for determining the habitat to be critical (50 CFR 402.02).

If consultation concludes that critical habitat would be destroyed or adversely modified, then surface disturbance would be prohibited on the affected portion of the lease. Surface disturbance also would be prohibited if the consultation were to conclude that the proposed action is inconsistent with the recovery needs of the listed species, as identified in an approved USFWS recovery plan.

Coordination with the USFWS on Proposed Critical Habitat—BLM policy requires conferencing with the USFWS on any action that may adversely affect proposed critical habitat. Depending on the complexity of the situation, a conference may be completed in a single telephone conversation or may require the time frames of a consultation. Generally, on completion of the conference, the application would be approved within 30 days. If the conference were to show that proposed critical habitat would be destroyed or adversely modified, then surface disturbance would be prohibited on the affected portion of the lease.

G.5.4 CSU-Sensitive Species

Stipulation: *All or a portion of this lease is within the range of one or more plant or animal species that are either federal candidates for listing as threatened or endangered (federal candidate), are listed by the State of California as threatened or endangered (state listed), or are designated by the BLM as sensitive (BLM sensitive). A list of species will be provided at the time of leasing and updated as necessary over the term of the lease. To determine whether species on this list or their habitat are present, a preliminary environmental review will be conducted for all surface disturbing activities. Presence of habitat or species may result in the proposed action being moved more than 200 meters (656 feet) but not more than a quarter-mile or off of the lease and prohibition of activities during seasonal use period. Furthermore, processing times for proposed actions may be delayed beyond established standards to accommodate species surveys, and coordination with the USFWS and California Department of Fish and Game.*

Objective: *To minimize or eliminate adverse effects associated with fluid mineral development on federal candidate, state listed, and BLM sensitive species.*

Exception: *The Authorized Officer may grant an exception if an environmental review determines the action as proposed or conditioned would have no effect on federal candidate, state listed, and BLM sensitive species.*

Modification: *The Authorized Officer may modify the stipulation to reflect new information with regard to federal candidate, state listed or BLM sensitive species lists. Furthermore, the authorized officer may modify the maximum distance that a potential location could be moved to extend farther than the stated quarter-mile to maintain the sensitive species protection goals.*

Additional Information

Application—The CSU-Sensitive Species stipulation would be attached to all leases that are within the range of a federal candidate, state listed or BLM sensitive species. A list of sensitive species within the Field Office boundary would be included with the stipulation for each lease when the lease is issued.

Review Process—Generally the following process would be used to approve surface-disturbing activities on leases with the CSU-Sensitive Species stipulation. The proposed activity would be reviewed to determine if special status species would be affected. This review may involve site-specific surveys for plant and animal species, conducted according to established methods that may specify certain seasons or other conditions. In some cases this may mean that a survey cannot be completed until the next growing season for some plants or after seasonal appearance for some animal species.

If the review determines that a special status species may be adversely affected, then surface-disturbing activities may be relocated up to a quarter-mile, but not off the lease, and certain surface-disturbing activities may be prohibited during seasonal periods. BLM policy may also require coordination with the USFWS or California Department of Fish and Game.

G.5.5 CSU-Priority Species, Plant Communities and Habitats

Stipulation: *All or a portion of the lease has been identified by the current RMP (i.e., ACECs and areas of ecological importance with this stipulation prescribed) as containing priority species, plant communities, or habitat that may be adversely affected by fluid mineral development. A list of affected parcels or portions of the lease will be provided at the time of leasing. To identify the possibility of adverse impact resulting from fluid mineral development, a preliminary environmental review will be conducted for all surface disturbing activities. Identification of adverse impacts may result in the proposed action being moved, modified, seasonally delayed, or prohibited from all or a portion of this lease. Furthermore, processing times for proposed actions may be delayed beyond established standards to accommodate species surveys.*

Objective: *To minimize or eliminate adverse effects associated with fluid mineral development on priority species, plant communities, or habitat.*

Exception: *The Authorized Officer may grant an exception if an environmental review determines the action as proposed or conditioned would have no effect on priority species, plant communities, or habitats.*

Modification: *The Authorized Officer may modify the stipulation to reflect new information with regard to the presence of priority species, plant communities, or habitat through the expansion or reduction of lands subject to this stipulation.*

Additional Information

Application—The CSU-Priority Species, Plant Communities and Habitats stipulation would be applied to specific areas that contain unique or significant biological and botanical values as described in the RMP (i.e., ACECs and areas of ecological importance).

Review Process—Generally the following process would be used to approve surface-disturbing activities on leases with the CSU- Priority Species, Plant Communities and Habitats stipulation: The proposed activity would be reviewed to determine if the values for which the area was recognized would be affected. This review may involve site-specific surveys for plant species, conducted according to established methods, which may specify certain seasons or other conditions. In some cases this may mean that a survey cannot be completed until the next growing season for some plants species.

If the review were to determine that the values for which the area was recognized may be adversely affected, then surface-disturbing activities may be moved, modified, or prohibited on portions of or the entire lease and certain activities may be prohibited during seasonal periods.

G.5.6 CSU-RAPTOR

Stipulation: *All or a portion of this lease has been identified as an important raptor foraging, wintering, or nesting area. Any proposed surface disturbing activity will be reviewed to determine if the activity would affect raptor foraging, wintering, or nesting habitat. Determination of effects to raptor foraging, wintering, or nesting habitat may result in the proposed action being moved more than 200 meters (656 feet) but not more than a half-mile and prohibition of activities during seasonal use period.*

Objective: *To minimize or eliminate adverse effects associated with fluid mineral development on sensitive raptor foraging areas, winter roosting areas, or nest sites.*

Exception: *The Authorized Officer may grant an exception if the operator submits a plan that demonstrates that impacts from the proposed action are minimal or can be adequately mitigated.*

Modification: *The Authorized Officer may modify the distance and other provisions of this stipulation based on new information and increasing or decreasing levels of the impacts anticipated from fluid mineral development.*

Waiver: *The Authorized Officer may waive the stipulation should new information show the area no longer contains sensitive raptor habitat for foraging, winter roosting, or nesting.*

Addition Information

Application—The CSU-Raptor stipulation would be applied to lands that have been identified as important raptor foraging, wintering, or nesting areas. Such lands include, but are not limited to, the

Hopper Mountain, Kaweah, Kettleman Hills, Chico Martinez, Temblor, Caliente Mountain, and the San Joaquin River Gorge areas.

Review Process—Generally, the following process would be used to approve surface-disturbing activities on leases with the CSU-Raptor stipulation. The proposed activity would be reviewed to determine if sensitive raptor foraging areas, winter roosting areas, or nest sites would be affected. If the review were to show that sensitive raptor use areas may be adversely affected, then surface-disturbing activities may be relocated up to one-half mile or certain activities may be prohibited during seasonal periods. Modified proposals would be developed with the applicant to ensure that the modified project still meets the applicant's objective.

Different raptor species and different individuals vary in their sensitivity and ability to habituate to disturbances. Type and extent, duration and timing, and visibility of disturbance and influence of other environmental factors, such as topography, also affect the significance of the disturbance in any particular case. Often, moving an activity out of visibility, such as behind a topographic feature, would be sufficient. Delaying certain new activities until young birds have fledged is also a common tactic. Movement of surface-disturbing activities to retain roost trees or hunting perches may also be used.

The following species or groups of species would be eligible for protection under the CSU-Raptor stipulation: golden eagle, bald eagle, black-shouldered kite, northern harrier, sharp-shinned hawk, Cooper's hawk, northern goshawk, red-shouldered hawk, red-tailed hawk, Swainson's hawk, rough-legged hawk, ferruginous hawk, osprey, American kestrel, merlin, prairie falcon, peregrine falcon, and all owl species.

G.5.7 CSU-KNOWN CULTURAL RESOURCES

Stipulation: *All or a portion of the lease contains National Register-listed or potentially eligible cultural properties that may be adversely affected by fluid mineral development. A list of affected parcels or portions of the lease will be provided at the time of leasing. To identify the possibility of adverse impacts resulting from fluid mineral development, a preliminary cultural resource review/survey will be conducted for all surface disturbing activities. Identification of adverse impacts may result in the proposed action being moved or modified. Surface-disturbing activities would be prohibited on the portion of the lease where National Register-listed properties or properties potentially eligible for listing on the National Register occur.*

Objective: *To minimize or eliminate adverse effects associated with fluid mineral development on known National Register-listed or potentially eligible cultural properties.*

Exception: *The Authorized Officer may grant an exception, with concurrence from the California State Historic Preservation Office and Native American tribes, if a subsequent formal eligibility evaluation indicates the cultural property is ineligible.*

Modification: *The Authorized Officer may modify the stipulation to reflect new information from formal eligibility evaluations for cultural properties through the expansion or reduction of land where surface disturbing activities would be prohibited.*

Waiver: *The Authorized Officer may grant a waiver to the stipulation should the results of formal eligibility evaluation determine all cultural properties ineligible for listing on the National Register.*

Additional Information

Application—The CSU–Cultural Resources stipulation would be applied to lands that contain known National Register-listed or potentially eligible cultural properties. The locations and number of acres affected would be determined at the leasing stage.

Review Process—Generally, the following process would be used to approve surface-disturbing activities on leases with the CSU-Cultural Resources stipulation. The proposed surface disturbing activity would be reviewed to determine if a known National Register- listed or potentially eligible cultural property would be affected. If the review were to show that the cultural property may be adversely affected, then surface-disturbing activities would be relocated or modified. Surface-disturbing activities would be prohibited on the lease only where the proposed action would be likely to destroy or adversely affect a known National Register-listed property or properties found eligible for listing on the National Register.

G.5.8 CSU-COMPENSATION LANDS

Stipulation: *All or a portion of this lease underlies lands managed as compensation land by the BLM or an entity other than the BLM that may have a governing document that prohibits certain activities. To allow only a compatible amount of disturbance to unique or significant biological values, no more than ten (10) percent of the surface within any parcel may be disturbed on the surface reserve lands overlaying the lease. Furthermore, access to federal minerals within the lease will not disturb more than ten (10) percent of the surface within any parcel from off-site sources that are compensation lands (e.g., compensation land in private ownership).*

Objective: *To minimize or eliminate adverse effects associated with fluid mineral development on lands acquired as compensation land.*

Exception: *The Authorized Officer may grant an exception if, after coordination with appropriate agency (e.g., CDFG and USFWS), an environmental review determines the action as proposed or conditioned would not impair the values present and is consistent with the document that established the compensation land.*

Modification: *The Authorized Officer may modify this stipulation if, after coordination with appropriate agency (e.g., CDFG and USFWS), an environmental review determines the action as proposed or conditioned would not impair the values present and is consistent with the document that established the compensation land.*

Waiver: *The Authorized Officer may grant a waiver to the stipulation if the lease parcel no longer considered as compensation land by the appropriate agency (e.g., CDFG and USFWS).*

Additional Information

Application—The CSU–Compensation Lands stipulation would be applied to mineral estate underlying areas managed as compensation lands by the BLM or an entity other than BLM.

Review Process—Generally the following process would be used to approve surface-disturbing activities on leases with the CSU–Compensation Lands stipulation: The document or agreement governing the specific parcel of compensation land (such as a conservation easement, USFWS biological opinion, CDF&G agreement) would be reviewed to determine if the proposed activity is allowed on the parcel. If the proposed activity is allowed by the governing document, the activity would be reviewed to determine if the proposed surface disturbance would exceed the 10 percent threshold. If the review determines that the proposed activity would cumulatively exceed this threshold, actions to reduce the cumulative surface disturbance to below 10 percent, such as restoration, would be required prior to approval of the proposed activity.

If the review were to determine that the proposed activity is not allowed by the governing document, or that the cumulative surface disturbance cannot be kept at or below the 10 percent threshold, then new surface-disturbing activities would be prohibited.

If lands adjacent to the lease have also been set aside as compensation lands, either by BLM or another entity, off-site surface-disturbing activities to access federal mineral estate will be subjected to the same restrictions as above.

G.5.9 CSU-Existing Surface Use/Management

Stipulation: *All or a portion of the lease contains federal mineral estate underlying surface with an established use or management that may be incompatible with fluid mineral development. A preliminary environmental review will be conducted for all surface disturbing activities to identify possible conflict between surface use and fluid mineral development. Surface disturbing activities may be moved, modified, or prohibited to accommodate the existing surface use should the Authorized Officer determine the incompatibility of these uses. Specifically, fluid mineral development shall not occur:*

1. *Closer to any development (e.g., public highway, institution, or place of public assembly) than allowed by the county/city regulation or statue applicable to the area in which the proposed action occurs (including those exceptions where closer spacing is allowed);*
2. *Within 200 feet of an occupied dwelling;*
3. *In a manner that significantly and adversely impacts natural and/or cultural resources of which the surface owner/administrator is charged with the management and protection; or*
4. *In a manner that significantly and adversely impacts existing recreation opportunity of which the surface owner/administrator is charged with the management and protection.*

Furthermore, processing times for proposed actions may be delayed beyond established standards to accommodate review and coordination with the surface owner/administrator.

Objective: *To minimize or eliminate conflict between fluid mineral development and existing surface uses on both public lands and split estate over federal minerals, and to reduce impacts associated with fluid mineral resource development on the owners/occupants within a dwelling or structure on split estate lands.*

Exception: *The Authorized Officer may grant an exception where a surface use agreement exists between the lessee and surface owner/administrator that allows for the proposed fluid mineral development. Furthermore, exception may be granted where the proposed action is deemed, following an environmental review, to have discountable or insignificant impacts on the existing surface use.*

Modification: *The Authorized Officer may modify this stipulation to further restrict surface use for mineral development on a portion of or all the lease if a more stringent requirement with regard to the location of facilities is deemed necessary following an environmental review (e.g., greater than county/city restrictions on fluid mineral development).*

Additional Information

Application—The CSU-Existing Surface Use/Management stipulation would be applied to areas where the authorized officer determines that pre-existing surface management uses/conditions would be incompatible with or preclude oil and gas operations from using the surface of a portion or even all of the leased land. The locations and number of acres affected would be determined at the leasing stage.

Review Process—Generally the following process would be used to approve surface-disturbing activities with the CSU-Existing Surface Use/Management stipulation. The proposed activity would be reviewed cooperatively with the surface manager to determine if it is compatible with the existing uses/conditions, and if not, the activity would be moved or possibly even denied/rejected.

G.5.10 CSU-CHIMINEAS RANCH

Stipulation: *This lease is within the boundaries of, or adjacent to, the State of California's Chimineas Ranch Ecological Reserve, an area that contains unique or significant natural or cultural values. Prior to the authorization of any surface disturbing activities, a preliminary environmental review will be conducted to identify the potential presence of natural or cultural values. Authorizations may be delayed until completion of the necessary surveys during the appropriate time period for these resources. Surface disturbing activities may be prohibited on portions or the entire lease, and some activities may be prohibited during seasonal time periods.*

Objective: *To prevent or reduce disturbance to unique or significant natural or cultural values from fluid mineral development.*

Exception: *The Authorized Officer may grant an exception if, after coordination with CDFG, an environmental review determines that the activity, as proposed or conditioned, would not impair the values present and is consistent with the management of the ecological reserve.*

Modification: *The Authorized Officer may modify this stipulation to further restrict surface use on a portion of or the entire lease if a more stringent requirement is deemed necessary to protect resource values following an environmental review.*

Addition Information

Application—The CSU–Chimineas Ranch stipulation would be applied to lands adjacent to, or within the boundaries of the California Department of Fish and Game's Chimineas Ranch Ecological Reserve, where the surface is managed by BLM. Split estate land, where the surface is management by the California Department of Fish and Game, would be subject to the NSO-Existing Surface Use/Management stipulation.

Review Process—Generally, the following process would be used to approve surface disturbing activities on leases with the CSU–Chimineas Ranch stipulation. The proposed activity would be reviewed to determine if the values for which the area was recognized would be affected. This review may involve site specific surveys for plant and animal species, conducted according to established methodologies which may specify certain seasons or other conditions. In some cases this may mean that a survey cannot be completed until the next growing season for some plants or after seasonal appearance for some animal species.

If the review determines that the values for which the area was recognized may be adversely affected, then surface disturbing activities may be prohibited on all or portions of the lease and certain activities may be prohibited during seasonal periods.

APPENDIX H

APPENDIX H – RECREATION AND VISITOR SERVICES
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H.1 INTRODUCTION

Recreation Management and Visitors Services is the proactive management of opportunities, experiences, and outcomes for the general public as they interact with the National System of Public Lands.

Historically, management of recreation resources has been random and reactionary, pursing recreation when and where they occurred, with little planning and forethought to long-term goals and objectives. Although this approach was somewhat effective at addressing the immediate programmatic and public health and safety needs, it often resulted in isolated elements of the larger recreation program, making long-term management problematic.

The current management trend to try to fully address recreation and visitor services is that of benefits-based management. This style of management focuses on outcomes to attempt to encompass all elements of the recreation program, including recreation setting, activities, programs, and visitors services, thus providing an overall framework to guide the recreation and visitor services program.

H.1.1 HOW TO READ/USE THIS DOCUMENT

This document addresses several elements of the Recreation and Visitor Services Program, to provide further explanation of the management processes, prescriptions, and desired outcomes as they relate to the decisions presented in the management alternatives for recreation (Chapter 2) and the information provided in the affected environment (Chapter 3).

H.1.2 AUTHORITY AND GUIDANCE FOR RECREATION AND VISITOR SERVICES MANAGEMENT

Alternatives have been developed based on the following authority and guidance specific to Recreation and Visitor Services management for the BLM:

- Recreation 2000 Strategy (BLM 1989) and update (BLM 1995);
- US Department of Interior's Strategic Plan for Recreation; and
- The BLM's Priorities for Recreation and Visitor Services Work Plan (a.k.a., the Purple Book) (BLM 2003).

H.2 RECREATION MANAGEMENT AREAS

Through the Land Use Planning process, the RMP decision area is divided up between ERMAs, SRMAs and "area not managed for recreation". The primary difference between an SRMA and an ERMA is the amount or level of management that is required to maintain the primary recreation settings and opportunities and if the primary recreation is structured or unstructured.

H.2.1 Areas not Managed for Recreation

Areas not managed for recreation are those, that although have intrinsic recreational value (open space) have no specific recreation management needs or future desired outcomes. These are also areas, where recreational use may be incompatible with other land uses, such as industrialized oil fields. The management associated with these areas is restricted to custodial actions. The custodial management concept is that the BLM will use the minimum of implementation actions necessary to proactively respond to stewardship needs associated with recreation-tourism activities.

H.2.2 Extensive Recreation Management Areas

ERMAs are administrative units where recreation management is only one of several management objectives and where a lower commitment of resources is required to provide extensive and unstructured types of recreation.

The identification of an ERMA does not mean that the expenditure of substantial time and funding is unwarranted when circumstances require it. For example, because of the proliferation of urban areas next to public lands, the BLM may need to implement actions that mitigate undesired activities, such as impacts on vegetation caused by the proliferation of user-created trails on the BLM lands next to these highly populated urban areas. In such instances, the BLM may apply a physical setting that favors appropriate activities but may not target a specific set of structured recreation outcomes such as would be associated with a SRMA designation. To carry out such management actions, the BLM may need assistance from participating partners and may have to prioritize ERMA implementation actions to protect resource values and to resolve conflicts.

H.2.3 Special Recreation Management Areas

SRMAs are areas that have a significant identifiable customer demand for structured recreation. The rationale for identifying an SRMA is that the area has to have an identifiable recreation-tourism market demand requiring structured (planned) recreation management that targets a particular activity to produce specific recreation experiences and desired outcomes. "Significant" implies that a specific type of outcome is being sought, including desired experiences and benefits and excluding undesired negative outcomes that are associated with specific recreation. "Structured" implies that the BLM and partners intend to produce this predetermined specific set of recreation opportunity outcomes.

SRMAs are identified when the BLM and partners are able to:

- Identify recreation-tourism markets;
- Identify activities and experiences benefit outcome opportunities;
- Create and maintain the natural resource recreation setting character (physical, social, and operational); and
- Perform necessary implementation actions.

H.2.4 Recreation Management Zones

SRMAs are further subdivided into more specific units known as Recreation Management Zones. RMZs are similar to SRMAs in that they address a very specific recreation audience and are managed for structured recreation. However, they are not identified as individual SRMAs because they have the same recreation-tourism market as the SRMA they are located in. There are four defining characteristics that are required for identifying an RMZ within an SRMA, as follows:

- RMZs serve a different recreation niche within the primary recreation market;
- RMZs produce a different set of recreation opportunities and facilitate the attainment of different experience and benefit outcomes (to individuals, households and communities, economies, and the environment);
- RMZs have distinctive recreation setting character; and
- RMZs require a different set of recreation provider actions to meet the strategically targeted primary recreation market demand.

Complete descriptions of the RMZ management framework for each of the 17 RMZs defined can be found further in this appendix under Section D – RMZ Management Framework.

H.3 Natural Resource Recreation Setting Matrix

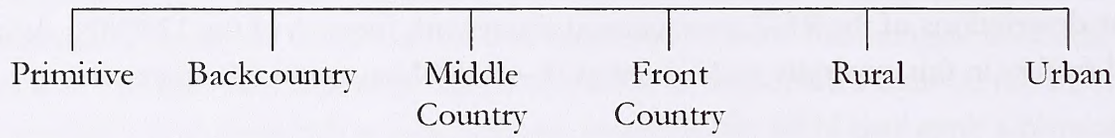
The Natural Resource Recreation Setting Matrix (NRRSM) is the primary tool that the BLM uses to describe and manage the recreation setting of an area, in order to aid management in achieving the desired benefits and outcomes. The NRRSM is a reinvention of the Recreation Opportunity Spectrum historically used to provide managers with guidance to ensure that recreation is provided for a wide range of users.

The BLM approach to NRRSM applies criteria to a land area's physical, social, and operational parameters to describe the conditions that define a land area's capability and suitability for providing a particular range of recreation opportunities. For example, some recreationists seek an undeveloped setting, emphasizing solitude and self-reliance, while others seek an experience with more comfort, security, and social opportunities.

The physical, social, and operational elements themselves are further divided to allow a fuller description of the setting, including the ability to map these characteristics, thereby removing some of the subjective and qualitative nature of the categorization.

Physical	Remoteness
	Naturalness
	Visitor facilities
Social	Contacts with others
	Group size
	Evidence of use
Operational	Mechanized use
	Visitor services
	Management controls

Like the Recreation Opportunity Spectrum, the NRRSM describes a range of settings, from primitive to urban, along a spectrum for the physical, social, and operational elements of an environment. Although the full spectrum of settings exists, for convenience, each area is assigned to one of six categories.



Physical conditions for the urban classification include areas with relatively easy access and a high degree of human alteration, such as buildings, roads, and power lines. In contrast, the physical environment classification is remote and relatively free of human alteration. The social environment varies from settings with abundant opportunities for solitude to areas where other people are nearly always within sight and sound. The administrative environment is the degree and type of management actions taken to control visitation. Urban/developed sites may have more on-site aids, such as interpretive and directional signing, whereas at primitive sites, less interpretation is desired or necessary. The primary characteristics of each are as follows:

Primitive. An essentially unmodified natural environment of fairly large size, with minimal evidence of others and very low interaction among users. Extremely high probability of isolation, independence, tranquility, and closeness to nature. Areas are essentially free from evidence of human-induced restrictions and controls, and motorized and mechanized uses are not permitted.

Backcountry. A predominantly natural or natural-appearing environment of moderate to large size. Opportunities to experience isolation, independence, and tranquility exist to some degree. Interaction between users is low, with some evidence of other users. On-site controls and restrictions are minimal and subtle. Motorized use is not permitted.

Middle Country. A natural-appearing environment of moderate to large size. Low concentration of users with evidence of other users. Few opportunities to experience isolation and independence. On-site controls and restrictions are minimal and subtle. Motorized use is permitted.

Front Country. Predominantly natural-appearing environments with moderate evidence of the sights and sounds of man. Interaction among users is moderate with evidence of other users prevalent. Visible resource modification and use that generally harmonize with the natural environment. Conventional motorized use is provided for in facilities construction and design.

Rural. A substantially modified natural environment. Resource modification and use are visible and needed to protect resources from intensive use. Sights and sounds of humans are readily evident, and user interaction is moderate to high. Facilities are provided for special activities and are designed for large numbers of people and intensified motorized use, including parking.

Urban. A substantially urbanized environment with natural-appearing elements, visible renewable resource modification, and use. Large numbers of users, with sights and sounds of humans predominate. Facilities available for highly intensified motor use and parking, with mass transit often available to carry people throughout the site.

H.3.1 Using the Recreation Resource Setting Matrix

The NRRSM has two functions. First it allows classification of the existing recreation conditions of an area, its intrinsic and current recreational value; second it allows for a desired future condition to be prescribed. This essentially translates into the recreational objective for an area.

Since the ERMA is under custodial management settings, which are not managed for, and although NRRSM could be used to describe and set objectives for specific sites and or projects, generally no NRRSMs are prescribed. Within the SRMAs, however, the NRRSM is used as the primary tool for describing and allocating the current and desired recreation setting in order to achieve the beneficial outcomes sought. The NRRSM is used to describe and prescribe at the RMZ level.

H.3.2 BKFO SRMA Recreation Resource Settings

The following pages represent the description (table cells outlined in **bold**) of the existing setting as referenced in Chapter 3, Affected Environment, and the desired setting (table cells completely shaded) as referenced in Chapter 2, Alternatives, for all RMZs considered in the various SRMAs across all action alternatives.

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Atwell Island ERMA

PHYSICAL – LAND and FACILITIES: character of the natural landscape

	Primitive Pristine	*Primitive Transition*	*Backcountry*	*Middle Country*	*Front Country*	*Rural*	*Urban*
Mapped **Remoteness**	More than 10 miles from any motorized route	More than 3 miles from any motorized route.	More than ½ mile from any kind of motorized route/use area, but not as distant as 3 miles	On or near motorized routes, but at least ½ mile from all improved roads, though they may be in sight.	On or near improved gravel roads, but at least ½ mile from highways.	On or near paved primary highways, but still within a rural area.	Municipal streets and roads within towns or cities.
Illustrated in Matrix **Naturalness**	Undisturbed natural landscape.		Natural appearing landscape, having modifications not readily noticeable.	Natural appearing landscape, except for obvious motorized routes.	Landscape partially modified by roads/trails, utility lines, etc., but none overpower natural landscape features.	Natural landscape substantially modified by agriculture or industrial development.	Urbanized developments dominate landscape.
Illustrated in Matrix **Visitor Facilities**	None.		Some primitive trails made of native materials, such as log bridges and carved wooden signs.	Maintained and marked trails, simple trailhead developments, improved signs, and very basic toilets.	Improved yet modest, rustic facilities, such as campsites, restrooms, trails, and interpretive signs.	Modern facilities, such as campgrounds, group shelters, boat launches, and occasional exhibits.	Elaborate full-service facilities, such as laundry, restaurants, and groceries.

SOCIAL – VISITOR USE and USERS: character of recreation-tourism use

	Primitive	*Backcountry*	*Middle Country*	*Front Country*	*Rural*	*Urban*
Mapped **Contacts with other groups**	Fewer than 3 encounters a day at campsites and fewer than 6 encounters a day on travel routes.	3-6 encounters a day off travel routes (e.g., campsites) and 7-15 encounters a day on travel routes.	7-14 encounters a day off travel routes (e.g., staging areas) and 15-29 encounters a day en route.	15-29 encounters a day off travel routes (e.g., campgrounds) and 30 or more encounters a day en route.	People seem to be generally everywhere.	Busy place with other people constantly in view.
Illustrated in Matrix **Group Size (other than you own)**	Fewer than or equal to 3 people per group.	4-6 people per group.	7-12 people per group.	13-25 people per group.	26-50 people per group.	Greater than 50 people per group.
Illustrated in Matrix **Evidence of Use**	No alteration of the natural terrain. Footprints only observed. Sounds of people rare.	Areas of alteration uncommon. Little surface vegetation wear observed. Sounds of people infrequent.	Small areas of alteration. Surface vegetation showing wear, with some bare soils. Sounds of people occasionally heard.	Small areas of alteration prevalent. Surface vegetation gone with compacted soils observed. Sounds of people regularly heard.	A few large areas of alteration. Surface vegetation absent, with hardened soils. Sounds of people frequently heard.	Large areas of alteration prevalent. Some erosion. Constantly hear people.

OPERATIONAL – ADMINISTRATION and SERVICES: character of how Public Land Managers, Cooperative Agencies and Local Businesses Care for the Area and Serve Visitors

		Primitive	*Backcountry*	*Middle Country*	*Front Country*	*Rural*	*Urban*
Mapped	**Mechanized Use**	None whatsoever.	Mountain bikes and perhaps other mechanized use, but all are nonmotorized.	Four-wheel-drives, all-terrain vehicles, dirt bikes, or snowmobiles, in addition to nonmotorized mechanized use.	Two-wheel-drive vehicles predominant, but also four-wheel-drives and nonmotorized mechanized use.	Ordinary highway auto and truck traffic is characteristic.	Wide variety of street vehicles, and highway traffic is ever-present.
Illustrated in Matrix	**Visitor Services**	None is available on-site.	Basic maps, but area personnel seldom available to provide on-site assistance.	Area brochures and maps, plus area personnel occasionally present to provide on-site assistance.	Information materials describe recreation areas and activities. Area personnel are periodically available.	Information described to the left, plus experience and benefit descriptions. Area personnel do on-site education.	Information described to the left, plus regularly scheduled on-site outdoor skills demonstrations and clinics.
	Management Controls	No visitor controls apparent. No use limits. Enforcement presence very rare.	Signs at key access points on basic user ethics. May have backcountry use restrictions. Enforcement presence rare.	Occasional regulatory signing. Motorized and mechanized use restrictions. Random enforcement presence.	Rules clearly posted, with some seasonal or day-of-week use restrictions. Periodic enforcement presence.	Regulations prominent. Total use limited by permit, reservation, etc. Routine enforcement presence.	Continuous enforcement to redistribute use and reduce user conflicts, hazards, and resource damage.

Case Mountain ERMA

PHYSICAL – LAND and FACILITIES: character of the natural landscape

	Primitive *Pristine*	*Transition*	*Backcountry*	*Middle Country*	*Front Country*	*Rural*	*Urban*
Mapped **Remoteness**	More than 10 miles from any motorized route.	More than 3 miles from any motorized route.	More than ½ mile from any kind of motorized route/use area but not as distant as 3 miles.	On or near motorized routes, but at least ½ mile from all improved roads, though they may be in sight.	On or near improved gravel roads, but at least ½ mile from highways.	On or near paved primary highways, but still within a rural area.	Municipal streets and roads within towns or cities.
Illustrated in Matrix **Naturalness**	Undisturbed natural landscape.		Natural appearing landscape, having modifications not readily noticeable.	Natural appearing landscape, except for obvious motorized routes.	Landscape partially modified by roads/trails, utility lines, etc., but none overpower natural landscape features.	Natural landscape substantially modified by agriculture or industrial development.	Urbanized developments dominate landscape.
Visitor Facilities	None.		Some primitive trails made of native materials, such as log bridges and carved wooden signs.	Maintained and marked trails, simple trailhead developments, improved signs, and very basic toilets.	Improved yet modest, rustic facilities, such as campsites, restrooms, trails, and interpretive signs.	Modern facilities, such as campgrounds, group shelters, boat launches, and occasional exhibits.	Elaborate full-service facilities, such as laundry, restaurants, and groceries.

SOCIAL – VISITOR USE and USERS: character of recreation-tourism use

	Primitive	*Backcountry*	*Middle Country*	*Front Country*	*Rural*	*Urban*
Mapped **Contacts with other groups**	Fewer than 3 encounters a day at campsites and fewer than 6 encounters a day on travel routes.	3-6 encounters a day off travel routes (e.g., campsites) and 7-15 encounters a day on travel routes.	7-14 encounters a day off travel routes (e.g., staging areas) and 15-29 encounters a day en route	15-29 encounters a day off travel routes (e.g., campgrounds) and 30 or more encounters a day en route.	People seem to be generally everywhere.	Busy place with other people constantly in view.
Illustrated in Matrix **Group Size (other than you own)**	Fewer than or equal to 3 people per group.	4-6 people per group.	7-12 people per group	13-25 people per group.	26-50 people per group.	Greater than 50 people per group.
Evidence of Use	No alteration of the natural terrain. Footprints only observed. Sounds of people rare.	Areas of alteration uncommon. Little surface vegetation wear observed. Sounds of people infrequent.	Small areas of alteration. Surface vegetation showing wear, with some bare soils. Sounds of people occasionally heard.	Small areas of alteration prevalent. Surface vegetation gone, with compacted soils observed. Sounds of people regularly heard.	A few large areas of alteration. Surface vegetation absent, with hardened soils. Sounds of people frequently heard.	Large areas of alteration prevalent. Some erosion. Constantly hear people.

OPERATIONAL – ADMINISTRATION and SERVICES: character of how Public Land Managers, Cooperative Agencies and Local Businesses Care for the Area and Serve Visitors

	Primitive	*Backcountry*	*Middle Country*	*Front Country*	*Rural*	*Urban*
Mapped **Mechanized Use**	None whatsoever.	Mountain bikes and perhaps other mechanized use, but all are nonmotorized.	Four-wheel-drives, all-terrain vehicles, dirt bikes, or snowmobiles, in addition to nonmotorized mechanized use.	Two-wheel-drive vehicles predominant, but also four-wheel-drives and nonmotorized mechanized use.	Ordinary highway auto and truck traffic is characteristic.	Wide variety of street vehicles, and highway traffic is ever-present.
Illustrated in Matrix **Visitor Services**	None is available on-site.	Basic maps, but area personnel seldom available to provide on-site assistance.	Area brochures and maps, plus area personnel occasionally present to provide on-site assistance.	Information materials describe recreation areas and activities. Area personnel are periodically available.	Information described to the left, plus experience and benefit descriptions. Area personnel do on-site education.	Information described to the left, plus regularly scheduled on-site outdoor skills demonstrations and clinics.
Illustrated in Matrix **Management Controls**	No visitor controls apparent. No use limits. Enforcement presence very rare.	Signs at key access points on basic user ethics. May have backcountry use restrictions. Enforcement presence rare.	Occasional regulatory signing. Motorized and mechanized use restrictions. Random enforcement presence.	Rules clearly posted, with some seasonal or day-of-week use restrictions. Periodic enforcement presence.	Regulations prominent. Total use limited by permit, reservation, etc. Routine enforcement presence.	Continuous enforcement to redistribute use and reduce user conflicts, hazards, and resource damage.

Fresno River ERMA

PHYSICAL – LAND and FACILITIES: character of the natural landscape

	Primitive		*Backcountry*	*Middle Country*	*Front Country*	*Rural*	*Urban*
	Pristine	*Transition*					
Mapped **Remoteness**	More than 10 miles from any motorized route	More than 3 miles from any motorized route.	More than ½ mile from any kind of motorized route/use area, but not as distant as 3 miles	On or near motorized routes, but at least ½ mile from all improved roads, though they may be in sight.	On or near improved gravel roads, but at least ½ mile from highways.	On or near paved primary highways, but still within a rural area.	Municipal streets and roads within towns or cities.
Illustrated in Matrix **Naturalness**	Undisturbed natural landscape.		Natural appearing landscape, having modifications not readily noticeable.	Natural appearing landscape, except for obvious motorized routes.	Landscape partially modified by roads/trails, utility lines, etc., but none overpower natural landscape features.	Natural landscape substantially modified by agriculture or industrial development.	Urbanized developments dominate landscape.
Illustrated in Matrix **Visitor Facilities**	None.		Some primitive trails made of native materials, such as log bridges and carved wooden signs.	Maintained and marked trails, simple trailhead developments, improved signs, and very basic toilets.	Improved yet modest, rustic facilities, such as campsites, restrooms, trails, and interpretive signs.	Modern facilities, such as campgrounds, group shelters, boat launches, and occasional exhibits.	Elaborate full-service facilities, such as laundry, restaurants, and groceries.

SOCIAL – VISITOR USE and USERS: character of recreation-tourism use

	Primitive	*Backcountry*	*Middle Country*	*Front Country*	*Rural*	*Urban*
Mapped **Contacts with other groups**	Fewer than 3 encounters a day at campsites and fewer than 6 encounters a day on travel routes.	3-6 encounters a day off travel routes (e.g., campsites) and 7-15 encounters a day on travel routes.	7-14 encounters a day off travel routes (e.g., staging areas) and 15-29 encounters a day en route.	15-29 encounters a day off travel routes (e.g., campgrounds) and 30 or more encounters a day en route.	People seem to be generally everywhere.	Busy place with other people constantly in view.
Illustrated in Matrix **Group Size (other than you own)**	Fewer than or equal to 3 people per group.	4-6 people per group.	7-12 people per group.	13-25 people per group.	26-50 people per group.	Greater than 50 people per group.
Illustrated in Matrix **Evidence of Use**	No alteration of the natural terrain. Footprints only observed. Sounds of people rare.	Areas of alteration uncommon. Little surface vegetation wear observed. Sounds of people infrequent.	Small areas of alteration. Surface vegetation showing wear, with some bare soils. Sounds of people occasionally heard.	Small areas of alteration prevalent. Surface vegetation gone with compacted soils observed. Sounds of people regularly heard.	A few large areas of alteration. Surface vegetation absent, with hardened soils. Sounds of people frequently heard.	Large areas of alteration prevalent. Some erosion. Constantly hear people.

OPERATIONAL – ADMINISTRATION and SERVICES: character of how Public Land Managers, Cooperative Agencies and Local Businesses Care for the Area and Serve Visitors

	Primitive	*Backcountry*	*Middle Country*	*Front Country*	*Rural*	*Urban*
Mapped **Mechanized Use**	None whatsoever.	Mountain bikes and perhaps other mechanized use, but all are nonmotorized.	Four-wheel-drives, all-terrain vehicles, dirt bikes, or snowmobiles, in addition to nonmotorized mechanized use.	Two-wheel-drive vehicles predominant, but also four-wheel-drives and nonmotorized mechanized use.	Ordinary highway auto and truck traffic is characteristic.	Wide variety of street vehicles, and highway traffic is ever-present.
Illustrated in Matrix **Visitor Services**	None is available on-site.	Basic maps, but area personnel seldom available to provide on-site assistance.	Area brochures and maps, plus area personnel occasionally present to provide on-site assistance.	Information materials describe recreation areas and activities. Area personnel are periodically available.	Information described to the left, plus experience and benefit descriptions. Area personnel do on-site education.	Information described to the left, plus regularly scheduled on-site outdoor skills demonstrations and clinics.
Illustrated in Matrix **Management Controls**	No visitor controls apparent. No use limits. Enforcement presence very rare.	Signs at key access points on basic user ethics. May have backcountry use restrictions. Enforcement presence rare.	Occasional regulatory signing. Motorized and mechanized use restrictions. Random enforcement presence.	Rules clearly posted, with some seasonal or day-of-week use restrictions. Periodic enforcement presence.	Regulations prominent. Total use limited by permit, reservation, etc. Routine enforcement presence.	Continuous enforcement to redistribute use and reduce user conflicts, hazards, and resource damage.

North Fork ERMA

PHYSICAL – LAND and FACILITIES: character of the natural landscape

	Primitive		*Backcountry*	*Middle Country*	*Front Country*	*Rural*	*Urban*
	Pristine	*Transition*					
Mapped **Remoteness**	More than 10 miles from any motorized route.	More than 3 miles from any motorized route.	More than ½ mile from any kind of motorized route/use area, but not as distant as 3 miles	On or near motorized routes, but at least ½ mile from all improved roads, though they may be in sight.	On or near improved gravel roads, but at least ½ mile from highways.	On or near paved primary highways, but still within a rural area.	Municipal streets and roads within towns or cities.
Illustrated in Matrix **Naturalness**	Undisturbed natural landscape.		Natural appearing landscape, having modifications not readily noticeable.	Natural appearing landscape, except for obvious motorized routes.	Landscape partially modified by roads/trails, utility lines, etc., but none overpower natural landscape features.	Natural landscape substantially modified by agriculture or industrial development.	Urbanized developments dominate landscape.
Illustrated in Matrix **Visitor Facilities**	None.		Some primitive trails made of native materials, such as log bridges and carved wooden signs.	Maintained and marked trails, simple trailhead developments, improved signs, and very basic toilets.	Improved yet modest, rustic facilities, such as campsites, restrooms, trails, and interpretive signs.	Modern facilities, such as campgrounds, group shelters, boat launches, and occasional exhibits.	Elaborate full-service facilities, such as laundry, restaurants, and groceries.

SOCIAL – VISITOR USE and USERS: character of recreation-tourism use

	Primitive	*Backcountry*	*Middle Country*	*Front Country*	*Rural*	*Urban*
Mapped **Contacts with other groups**	Fewer than 3 encounters a day at campsites and fewer than 6 encounters a day on travel routes.	3-6 encounters a day off travel routes (e.g., campsites) and 7-15 encounters a day on travel routes.	7-14 encounters a day off travel routes (e.g., staging areas) and 15-29 encounters a day en route	15-29 encounters a day off travel routes (e.g., campgrounds) and 30 or more encounters a day en route.	People seem to be generally everywhere.	Busy place with other people constantly in view.
Illustrated in Matrix **Group Size (other than you own)**	Fewer than or equal to 3 people per group.	4-6 people per group.	7-12 people per group	13-25 people per group.	26-50 people per group.	Greater than 50 people per group.
Illustrated in Matrix **Evidence of Use**	No alteration of the natural terrain. Footprints only observed. Sounds of people rare.	Areas of alteration uncommon. Little surface vegetation wear observed. Sounds of people infrequent.	Small areas of alteration. Surface vegetation showing wear, with some bare soils. Sounds of people occasionally heard.	Small areas of alteration prevalent. Surface vegetation gone, with compacted soils observed. Sounds of people regularly heard.	A few large areas of alteration. Surface vegetation absent, with hardened soils. Sounds of people frequently heard.	Large areas of alteration prevalent. Some erosion. Constantly hear people.

OPERATIONAL – ADMINISTRATION and SERVICES: character of how Public Land Managers, Cooperative Agencies and Local Businesses Care for the Area and Serve Visitors

	Primitive	*Backcountry*	*Middle Country*	*Front Country*	*Rural*	*Urban*
Mapped **Mechanized Use**	None whatsoever.	Mountain bikes and perhaps other mechanized use, but all are nonmotorized.	Four-wheel-drives, all-terrain vehicles, dirt bikes, or snowmobiles, in addition to nonmotorized mechanized use.	Two-wheel-drive vehicles predominant, but also four-wheel-drives and nonmotorized mechanized use.	Ordinary highway auto and truck traffic is characteristic.	Wide variety of street vehicles, and highway traffic is ever-present.
Illustrated in Matrix **Visitor Services**	None is available on-site.	Basic maps, but area personnel seldom available to provide on-site assistance.	Area brochures and maps, plus area personnel occasionally present to provide on-site assistance.	Information materials describe recreation areas and activities. Area personnel are periodically available.	Information described to the left, plus experience and benefit descriptions. Area personnel do on-site education.	Information described to the left, plus regularly scheduled on-site outdoor skills demonstrations and clinics.
Management Controls	No visitor controls apparent. No use limits. Enforcement presence very rare.	Signs at key access points on basic user ethics. May have backcountry use restrictions. Enforcement presence rare.	Occasional regulatory signing. Motorized and mechanized use restrictions. Random enforcement presence.	Rules clearly posted, with some seasonal or day-of-week use restrictions. Periodic enforcement presence.	Regulations prominent. Total use limited by permit, reservation, etc. Routine enforcement presence.	Continuous enforcement to redistribute use and reduce user conflicts, hazards, and resource damage.

Chimney Peak SRMA – Byway RMZ

PHYSICAL – LAND and FACILITIES: character of the natural landscape

	Primitive		*Backcountry*	*Middle Country*	*Front Country*	*Rural*	*Urban*
	Pristine	*Transition*					
Mapped **Remoteness**	More than 10 miles from any motorized route	More than 3 miles from any motorized route.	More than ½ mile from any kind of motorized route/use area, but not as distant as 3 miles.	On or near motorized routes, but at least ½ mile from all improved roads, though they may be in sight.	On or near improved gravel roads, but at least ½ mile from highways.	On or near paved primary highways, but still within a rural area.	Municipal streets and roads within towns or cities.
Illustrated in Matrix **Naturalness**	Undisturbed natural landscape.		Natural appearing landscape, having modifications not readily noticeable.	Natural appearing landscape, except for obvious motorized routes.	Landscape partially modified by roads/trails, utility lines, etc., but none overpower natural landscape features.	Natural landscape substantially modified by agriculture or industrial development.	Urbanized developments dominate landscape.
Illustrated in Matrix **Visitor Facilities**	None.		Some primitive trails made of native materials, such as log bridges and carved wooden signs.	Maintained and marked trails, simple trailhead developments, improved signs, and very basic toilets.	Improved yet modest, rustic facilities, such as campsites, restrooms, trails, and interpretive signs.	Modern facilities, such as campgrounds, group shelters, boat launches, and occasional exhibits.	Elaborate full-service facilities, such as laundry, restaurants, and groceries.

SOCIAL – VISITOR USE and USERS: character of recreation-tourism use

	Primitive	*Backcountry*	*Middle Country*	*Front Country*	*Rural*	*Urban*
Mapped **Contacts with other groups**	Fewer than 3 encounters a day at campsites and fewer than 6 encounters a day on travel routes.	3-6 encounters a day off travel routes (e.g., campsites) and 7-15 encounters a day on travel routes.	7-14 encounters a day off travel routes (e.g., staging areas) and 15-29 encounters a day en route.	15-29 encounters a day off travel routes (e.g., campgrounds) and 30 or more encounters a day en route.	People seem to be generally everywhere.	Busy place, with other people constantly in view.
Illustrated in Matrix **Group Size (other than you own)**	Fewer than or equal to 3 people per group.	4-6 people per group.	7-12 people per group.	13-25 people per group.	26-50 people per group.	Greater than 50 people per group.
Illustrated in Matrix **Evidence of Use**	No alteration of the natural terrain. Footprints only observed. Sounds of people rare.	Areas of alteration uncommon. Little surface vegetation wear observed. Sounds of people infrequent.	Small areas of alteration. Surface vegetation showing wear, with some bare soils. Sounds of people occasionally heard.	Small areas of alteration prevalent. Surface vegetation gone with compacted soils observed. Sounds of people regularly heard.	A few large areas of alteration. Surface vegetation absent, with hardened soils. Sounds of people frequently heard.	Large areas of alteration prevalent. Some erosion. Constantly hear people.

OPERATIONAL – ADMINISTRATION and SERVICES: character of how Public Land Managers, Cooperative Agencies and Local Businesses Care for the Area and Serve Visitors

	Primitive	*Backcountry*	*Middle Country*	*Front Country*	*Rural*	*Urban*
Mapped **Mechanized Use**	None whatsoever.	Mountain bikes and perhaps other mechanized use, but all are nonmotorized.	Four-wheel-drives, all-terrain vehicles, dirt bikes, or snowmobiles, in addition to nonmotorized mechanized use.	Two-wheel-drive vehicles predominant, but also four-wheel-drives and nonmotorized mechanized use.	Ordinary highway auto and truck traffic is characteristic.	Wide variety of street vehicles, and highway traffic is ever-present.
Illustrated in Matrix **Visitor Services**	None is available on-site.	Basic maps, but area personnel seldom available to provide on-site assistance.	Area brochures and maps, plus area personnel occasionally present to provide on-site assistance.	Information materials describe recreation areas and activities. Area personnel are periodically available.	Information described to the left, plus experience and benefit descriptions. Area personnel do on-site education.	Information described to the left, plus regularly scheduled on-site outdoor skills demonstrations and clinics.
Illustrated in Matrix **Management Controls**	No visitor controls apparent. No use limits. Enforcement presence very rare.	Signs at key access points on basic user ethics. May have backcountry use restrictions. Enforcement presence rare.	Occasional regulatory signing. Motorized and mechanized use restrictions. Random enforcement presence.	Rules clearly posted, with some seasonal or day-of-week use restrictions. Periodic enforcement presence.	Regulations prominent. Total use limited by permit, reservation, etc. Routine enforcement presence.	Continuous enforcement to redistribute use and reduce user conflicts, hazards, and resource damage.

Chimney Peak SRMA – PCNST RMZ

PHYSICAL – LAND and FACILITIES: character of the natural landscape

	Primitive		*Backcountry*	*Middle Country*	*Front Country*	*Rural*	*Urban*
	Pristine	*Transition*					
Mapped **Remoteness**	More than 10 miles from any motorized route.	More than 3 miles from any motorized route.	More than ½ mile from any kind of motorized route/use area, but not as distant as 3 miles	On or near motorized routes, but at least ½ mile from all improved roads, though they may be in sight.	On or near improved gravel roads, but at least ½ mile from highways.	On or near paved primary highways, but still within a rural area.	Municipal streets and roads within towns or cities.
Illustrated in Matrix **Naturalness**	Undisturbed natural landscape.		Natural appearing landscape, having modifications not readily noticeable.	Natural appearing landscape, except for obvious motorized routes.	Landscape partially modified by roads/trails, utility lines, etc., but none overpower natural landscape features.	Natural landscape substantially modified by agriculture or industrial development.	Urbanized developments dominate landscape.
Illustrated in Matrix **Visitor Facilities**	None.		Some primitive trails made of native materials, such as log bridges and carved wooden signs.	Maintained and marked trails, simple trailhead developments, improved signs, and very basic toilets.	Improved yet modest, rustic facilities, such as campsites, restrooms, trails, and interpretive signs.	Modern facilities, such as campgrounds, group shelters, boat launches, and occasional exhibits.	Elaborate full-service facilities, such as laundry, restaurants, and groceries.

SOCIAL – VISITOR USE and USERS: character of recreation-tourism use

	Primitive	*Backcountry*	*Middle Country*	*Front Country*	*Rural*	*Urban*
Mapped **Contacts with other groups**	Fewer than 3 encounters a day at campsites and fewer than 6 encounters a day on travel routes.	3-6 encounters a day off travel routes (e.g., campsites) and 7-15 encounters a day on travel routes.	7-14 encounters a day off travel routes (e.g., staging areas) and 15-29 encounters a day en route	15-29 encounters a day off travel routes (e.g., campgrounds) and 30 or more encounters a day en route.	People seem to be generally everywhere.	Busy place with other people constantly in view.
Illustrated in Matrix **Group Size (other than you own)**	Fewer than or equal to 3 people per group.	4-6 people per group.	7-12 people per group.	13-25 people per group.	26-50 people per group.	Greater than 50 people per group.
Illustrated in Matrix **Evidence of Use**	No alteration of the natural terrain. Footprints only observed. Sounds of people rare.	Areas of alteration uncommon. Little surface vegetation wear observed. Sounds of people infrequent.	Small areas of alteration. Surface vegetation showing wear, with some bare soils. Sounds of people occasionally heard.	Small areas of alteration prevalent. Surface vegetation gone with compacted soils observed. Sounds of people regularly heard.	A few large areas of alteration. Surface vegetation absent, with hardened soils. Sounds of people frequently heard.	Large areas of alteration prevalent. Some erosion. Constantly hear people.

OPERATIONAL – ADMINISTRATION and SERVICES: character of how Public Land Managers, Cooperative Agencies and Local Businesses Care for the Area and Serve Visitors

	Primitive	*Backcountry*	*Middle Country*	*Front Country*	*Rural*	*Urban*
Mapped **Mechanized Use**	None whatsoever.	Mountain bikes and perhaps other mechanized use, but all are nonmotorized.	Four-wheel-drives, all-terrain vehicles, dirt bikes, or snowmobiles, in addition to nonmotorized mechanized use.	Two-wheel-drive vehicles predominant, but also four-wheel-drives and nonmotorized mechanized use.	Ordinary highway auto and truck traffic is characteristic.	Wide variety of street vehicles, and highway traffic is ever-present.
Illustrated in Matrix **Visitor Services**	None is available on-site.	Basic maps, but area personnel seldom available to provide on-site assistance.	Area brochures and maps, plus area personnel occasionally present to provide on-site assistance.	Information materials describe recreation areas and activities. Area personnel are periodically available.	Information described to the left, plus experience and benefit descriptions. Area personnel do on-site education.	Information described to the left, plus regularly scheduled on-site outdoor skills demonstrations and clinics.
Illustrated in Matrix **Management Controls**	No visitor controls apparent. No use limits. Enforcement presence very rare.	Signs at key access points on basic user ethics. May have backcountry use restrictions. Enforcement presence rare.	Occasional regulatory signing. Motorized and mechanized use restrictions. Random enforcement presence.	Rules clearly posted, with some seasonal or day-of-week use restrictions. Periodic enforcement presence.	Regulations prominent. Total use limited by permit, reservation, etc. Routine enforcement presence.	Continuous enforcement to redistribute use and reduce user conflicts, hazards, and resource damage.

Chimney Peak SRMA – Wilderness RMZ

PHYSICAL – LAND and FACILITIES: character of the natural landscape

	Primitive Pristine	*Primitive Transition*	*Backcountry*	*Middle Country*	*Front Country*	*Rural*	*Urban*
Mapped **Remoteness**	More than 10 miles from any motorized route.	More than 3 miles from any motorized route.	More than ½ mile from any kind of motorized route/use area, but not as distant as 3 miles.	On or near motorized routes, but at least ½ mile from all improved roads, though they may be in sight.	On or near improved gravel roads, but at least ½ mile from highways.	On or near paved primary highways, but still within a rural area.	Municipal streets and roads within towns or cities.
Illustrated in Matrix **Naturalness**	Undisturbed natural landscape.		Natural appearing landscape, having modifications not readily noticeable.	Natural appearing landscape, except for obvious motorized routes.	Landscape partially modified by roads/trails, utility lines, etc., but none overpower natural landscape features.	Natural landscape substantially modified by agriculture or industrial development.	Urbanized developments dominate landscape.
Illustrated in Matrix **Visitor Facilities**	None.		Some primitive trails made of native materials, such as log bridges and carved wooden signs.	Maintained and marked trails, simple trailhead developments, improved signs, and very basic toilets.	Improved yet modest, rustic facilities, such as campsites, restrooms, trails, and interpretive signs.	Modern facilities, such as campgrounds, group shelters, boat launches, and occasional exhibits.	Elaborate full-service facilities, such as laundry, restaurants, and groceries.

SOCIAL – VISITOR USE and USERS: character of recreation-tourism use

	Primitive	*Backcountry*	*Middle Country*	*Front Country*	*Rural*	*Urban*
Mapped **Contacts with other groups**	Fewer than 3 encounters a day at campsites and fewer than 6 encounters a day on travel routes.	3-6 encounters a day off travel routes (e.g., campsites) and 7-15 encounters a day on travel routes.	7-14 encounters a day off travel routes (e.g., staging areas) and 15-29 encounters a day en route.	15-29 encounters a day off travel routes (e.g., campgrounds) and 30 or more encounters a day en route.	People seem to be generally everywhere.	Busy place with other people constantly in view.
Illustrated in Matrix **Group Size (other than you own)**	Fewer than or equal to 3 people per group.	4-6 people per group.	7-12 people per group.	13-25 people per group.	26-50 people per group.	Greater than 50 people per group.
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OPERATIONAL – ADMINISTRATION and SERVICES: character of how Public Land Managers, Cooperative Agencies and Local Businesses Care for the Area and Serve Visitors

	Primitive	*Backcountry*	*Middle Country*	*Front Country*	*Rural*	*Urban*
Mapped **Mechanized Use**	None whatsoever.	Mountain bikes and perhaps other mechanized use, but all are nonmotorized.	Four-wheel-drives, all-terrain vehicles, dirt bikes, or snowmobiles, in addition to nonmotorized mechanized use.	Two-wheel-drive vehicles predominant, but also four-wheel-drives and nonmotorized mechanized use.	Ordinary highway auto and truck traffic is characteristic.	Wide variety of street vehicles, and highway traffic is ever-present.
Illustrated in Matrix **Visitor Services**	None is available on-site.	Basic maps, but area personnel seldom available to provide on-site assistance.	Area brochures and maps, plus area personnel occasionally present to provide on-site assistance.	Information materials describe recreation areas and activities. Area personnel are periodically available.	Information described to the left, plus experience and benefit descriptions. Area personnel do on-site education.	Information described to the left, plus regularly scheduled on-site outdoor skills demonstrations and clinics.
Illustrated in Matrix **Management Controls**	No visitor controls apparent. No use limits. Enforcement presence very rare.	Signs at key access points on basic user ethics. May have backcountry use restrictions. Enforcement presence rare.	Occasional regulatory signing. Motorized and mechanized use restrictions. Random enforcement presence.	Rules clearly posted, with some seasonal or day-of-week use restrictions. Periodic enforcement presence.	Regulations prominent. Total use limited by permit, reservation, etc. Routine enforcement presence.	Continuous enforcement to redistribute use and reduce user conflicts, hazards, and resource damage.

Keyesville SRMA – French Gulch RMZ

PHYSICAL – LAND and FACILITIES: character of the natural landscape

	Primitive		*Backcountry*	*Middle Country*	*Front Country*	*Rural*	*Urban*
	Pristine	*Transition*					
Mapped **Remoteness**	More than 10 miles from any motorized route	More than 3 miles from any motorized route.	More than ½ mile from any kind of motorized route/use area, but not as distant as 3 miles	On or near motorized routes, but at least ½ mile from all improved roads, though they may be in sight.	On or near improved gravel roads, but at least ½ mile from highways.	On or near paved primary highways, but still within a rural area.	Municipal streets and roads within towns or cities.
Illustrated in Matrix **Naturalness**	Undisturbed natural landscape.		Natural appearing landscape, having modifications not readily noticeable.	Natural appearing landscape, except for obvious motorized routes.	Landscape partially modified by roads/trails, utility lines, etc., but none overpower natural landscape features.	Natural landscape substantially modified by agriculture or industrial development.	Urbanized developments dominate landscape.
Illustrated in Matrix **Visitor Facilities**	None.		Some primitive trails made of native materials, such as log bridges and carved wooden signs.	Maintained and marked trails, simple trailhead developments, improved signs, and very basic toilets.	Improved yet modest, rustic facilities, such as campsites, restrooms, trails, and interpretive signs.	Modern facilities, such as campgrounds, group shelters, boat launches, and occasional exhibits.	Elaborate full-service facilities, such as laundry, restaurants, and groceries.

SOCIAL – VISITOR USE and USERS: character of recreation-tourism use

	Primitive	*Backcountry*	*Middle Country*	*Front Country*	*Rural*	*Urban*
Mapped **Contacts with other groups**	Fewer than 3 encounters a day at campsites and fewer than 6 encounters a day on travel routes.	3-6 encounters a day off travel routes (e.g., campsites) and 7-15 encounters a day on travel routes.	7-14 encounters a day off travel routes (e.g., staging areas) and 15-29 encounters a day en route.	15-29 encounters a day off travel routes (e.g., campgrounds) and 30 or more encounters a day en route.	People seem to be generally everywhere.	Busy place with other people constantly in view.
Illustrated in Matrix **Group Size (other than you own)**	Fewer than or equal to 3 people per group.	4-6 people per group.	7-12 people per group.	13-25 people per group.	26-50 people per group.	Greater than 50 people per group.
Illustrated in Matrix **Evidence of Use**	No alteration of the natural terrain. Footprints only observed. Sounds of people rare.	Areas of alteration uncommon. Little surface vegetation wear observed. Sounds of people infrequent.	Small areas of alteration. Surface vegetation showing wear, with some bare soils. Sounds of people occasionally heard.	Small areas of alteration prevalent. Surface vegetation gone with compacted soils observed. Sounds of people regularly heard.	A few large areas of alteration. Surface vegetation absent, with hardened soils. Sounds of people frequently heard.	Large areas of alteration prevalent. Some erosion. Constantly hear people.

OPERATIONAL – ADMINISTRATION and SERVICES: character of how Public Land Managers, Cooperative Agencies and Local Businesses Care for the Area and Serve Visitors

Mapped

	Primitive	*Backcountry*	*Middle Country*	*Front Country*	*Rural*	*Urban*
Mechanized Use	None whatsoever.	Mountain bikes and perhaps other mechanized use, but all are nonmotorized.	Four-wheel-drives, all-terrain vehicles, dirt bikes, or snowmobiles, in addition to nonmotorized mechanized use.	Two-wheel-drive vehicles predominant, but also four-wheel-drives and nonmotorized mechanized use.	Ordinary highway auto and truck traffic is characteristic.	Wide variety of street vehicles, and highway traffic is ever-present.

Illustrated in Matrix

Visitor Services	None is available on-site.	Basic maps, but area personnel seldom available to provide on-site assistance.	Area brochures and maps, plus area personnel occasionally present to provide on-site assistance.	Information materials describe recreation areas and activities. Area personnel are periodically available.	Information described to the left, plus experience and benefit descriptions. Area personnel do on-site education.	Information described to the left, plus regularly scheduled on-site outdoor skills demonstrations and clinics.
Management Controls	No visitor controls apparent. No use limits. Enforcement presence very rare.	Signs at key access points on basic user ethics. May have backcountry use restrictions. Enforcement presence rare.	Occasional regulatory signing. Motorized and mechanized use restrictions. Random enforcement presence.	Rules clearly posted, with some seasonal or day-of-week use restrictions. Periodic enforcement presence.	Regulations prominent. Total use limited by permit, reservation, etc. Routine enforcement presence.	Continuous enforcement to redistribute use and reduce user conflicts, hazards, and resource damage.

Keyesville SRMA – Gold Fever RMZ

PHYSICAL – LAND and FACILITIES: character of the natural landscape

	Primitive *Pristine*	*Transition*	*Backcountry*	*Middle Country*	*Front Country*	*Rural*	*Urban*
Mapped **Remoteness**	More than 10 miles from any motorized route.	More than 3 miles from any motorized route.	More than ½ mile from any kind of motorized route/use area, but not as distant as 3 miles.	On or near motorized routes, but at least ½ mile from all improved roads, though they may be in sight.	On or near improved gravel roads, but at least ½ mile from highways.	On or near paved primary highways, but still within a rural area.	Municipal streets and roads within towns or cities.
Illustrated in Matrix **Naturalness**	Undisturbed natural landscape.		Natural appearing landscape, having modifications not readily noticeable.	Natural appearing landscape, except for obvious motorized routes.	Landscape partially modified by roads/trails, utility lines, etc., but none overpower natural landscape features.	Natural landscape substantially modified by agriculture or industrial development.	Urbanized developments dominate landscape.
Illustrated in Matrix **Visitor Facilities**	None.		Some primitive trails made of native materials, such as log bridges and carved wooden signs.	Maintained and marked trails, simple trailhead developments, improved signs, and very basic toilets.	Improved yet modest, rustic facilities, such as campsites, restrooms, trails, and interpretive signs.	Modern facilities, such as campgrounds, group shelters, boat launches, and occasional exhibits.	Elaborate full-service facilities, such as laundry, restaurants, and groceries.

SOCIAL – VISITOR USE and USERS: character of recreation-tourism use

	Primitive	*Backcountry*	*Middle Country*	*Front Country*	*Rural*	*Urban*
Mapped **Contacts with other groups**	Fewer than 3 encounters a day at campsites and fewer than 6 encounters a day on travel routes.	3-6 encounters a day off travel routes (e.g., campsites) and 7-15 encounters a day on travel routes.	7-14 encounters a day off travel routes (e.g., staging areas) and 15-29 encounters a day en route	15-29 encounters a day off travel routes (e.g., campgrounds) and 30 or more encounters a day en route.	People seem to be generally everywhere.	Busy place with other people constantly in view.
Illustrated in Matrix **Group Size (other than you own)**	Fewer than or equal to 3 people per group.	4-6 people per group.	7-12 people per group	13-25 people per group.	26-50 people per group.	Greater than 50 people per group.
Illustrated in Matrix **Evidence of Use**	No alteration of the natural terrain. Footprints only observed. Sounds of people rare.	Areas of alteration uncommon. Little surface vegetation wear observed. Sounds of people infrequent.	Small areas of alteration. Surface vegetation showing wear ,with some bare soils. Sounds of people occasionally heard.	Small areas of alteration prevalent. Surface vegetation gone, with compacted soils observed. Sounds of people regularly heard.	A few large areas of alteration. Surface vegetation absent, with hardened soils. Sounds of people frequently heard.	Large areas of alteration prevalent. Some erosion. Constantly hear people.

OPERATIONAL – ADMINISTRATION and SERVICES: character of how Public Land Managers, Cooperative Agencies and Local Businesses Care for the Area and Serve Visitors

	Primitive	*Backcountry*	*Middle Country*	*Front Country*	*Rural*	*Urban*
Mapped **Mechanized Use**	None whatsoever.	Mountain bikes and perhaps other mechanized use, but all are nonmotorized.	Four-wheel-drives, all-terrain vehicles, dirt bikes, or snowmobiles, in addition to nonmotorized mechanized use.	Two-wheel-drive vehicles predominant, but also four-wheel-drives and nonmotorized mechanized use.	Ordinary highway auto and truck traffic is characteristic.	Wide variety of street vehicles, and highway traffic is ever-present.
Illustrated in Matrix **Visitor Services**	None is available on-site.	Basic maps, but area personnel seldom available to provide on-site assistance.	Area brochures and maps, plus area personnel occasionally present to provide on-site assistance.	Information materials describe recreation areas and activities. Area personnel are periodically available.	Information described to the left, plus experience and benefit descriptions. Area personnel do on-site education.	Information described to the left, plus regularly scheduled on-site outdoor skills demonstrations and clinics.
Management Controls	No visitor controls apparent. No use limits. Enforcement presence very rare.	Signs at key access points on basic user ethics. May have backcountry use restrictions. Enforcement presence rare.	Occasional regulatory signing. Motorized and mechanized use restrictions. Random enforcement presence.	Rules clearly posted, with some seasonal or day-of-week use restrictions. Periodic enforcement presence.	Regulations prominent. Total use limited by permit, reservation, etc. Routine enforcement presence.	Continuous enforcement to redistribute use and reduce user conflicts, hazards, and resource damage.

Keyesville SRMA – The Dam RMZ

PHYSICAL – LAND and FACILITIES: character of the natural landscape

	Primitive		*Backcountry*	*Middle Country*	*Front Country*	*Rural*	*Urban*
	Pristine	*Transition*					
Mapped **Remoteness**	More than 10 miles from any motorized route.	More than 3 miles from any motorized route.	More than ½ mile from any kind of motorized route/use area, but not as distant as 3 miles.	On or near motorized routes, but at least ½ mile from all improved roads, though they may be in sight.	On or near improved gravel roads, but at least ½ mile from highways.	On or near paved primary highways, but still within a rural area.	Municipal streets and roads within towns or cities.
Illustrated in Matrix **Naturalness**	Undisturbed natural landscape.		Natural appearing landscape, having modifications not readily noticeable.	Natural appearing landscape, except for obvious motorized routes.	Landscape partially modified by roads/trails, utility lines, etc., but none overpower natural landscape features.	Natural landscape substantially modified by agriculture or industrial development.	Urbanized developments dominate landscape.
Illustrated in Matrix **Visitor Facilities**	None.		Some primitive trails made of native materials, such as log bridges and carved wooden signs.	Maintained and marked trails, simple trailhead developments, improved signs, and very basic toilets.	Improved yet modest, rustic facilities, such as campsites, restrooms, trails, and interpretive signs.	Modern facilities, such as campgrounds, group shelters, boat launches, and occasional exhibits.	Elaborate full-service facilities, such as laundry, restaurants, and groceries.

SOCIAL – VISITOR USE and USERS: character of recreation-tourism use

	Primitive	*Backcountry*	*Middle Country*	*Front Country*	*Rural*	*Urban*
Mapped **Contacts with other groups**	Fewer than 3 encounters a day at campsites and fewer than 6 encounters a day on travel routes.	3-6 encounters a day off travel routes (e.g., campsites) and 7-15 encounters a day on travel routes.	7-14 encounters a day off travel routes (e.g., staging areas) and 15-29 encounters a day en route.	15-29 encounters a day off travel routes (e.g., campgrounds) and 30 or more encounters a day en route.	People seem to be generally everywhere.	Busy place, with other people constantly in view.
Illustrated in Matrix **Group Size (other than you own)**	Fewer than or equal to 3 people per group.	4-6 people per group.	7-12 people per group.	13-25 people per group.	26-50 people per group.	Greater than 50 people per group.
Illustrated in Matrix **Evidence of Use**	No alteration of the natural terrain. Footprints only observed. Sounds of people rare.	Areas of alteration uncommon. Little surface vegetation wear observed. Sounds of people infrequent.	Small areas of alteration. Surface vegetation showing wear, with some bare soils. Sounds of people occasionally heard.	Small areas of alteration prevalent. Surface vegetation gone, with compacted soils observed. Sounds of people regularly heard.	A few large areas of alteration. Surface vegetation absent, with hardened soils. Sounds of people frequently heard.	Large areas of alteration prevalent. Some erosion. Constantly hear people.

OPERATIONAL – ADMINISTRATION and SERVICES: character of how Public Land Managers, Cooperative Agencies and Local Businesses Care for the Area and Serve Visitors

	Primitive	*Backcountry*	*Middle Country*	*Front Country*	*Rural*	*Urban*
Mapped **Mechanized Use**	None whatsoever.	Mountain bikes and perhaps other mechanized use, but all are nonmotorized.	Four-wheel-drives, all-terrain vehicles, dirt bikes, or snowmobiles, in addition to nonmotorized mechanized use.	Two-wheel-drive vehicles predominant, but also four-wheel-drives and nonmotorized mechanized use.	Ordinary highway auto and truck traffic is characteristic.	Wide variety of street vehicles, and highway traffic is ever-present.
Illustrated in Matrix **Visitor Services**	None is available on-site.	Basic maps, but area personnel seldom available to provide on-site assistance.	Area brochures and maps, plus area personnel occasionally present to provide on-site assistance.	Information materials describe recreation areas and activities. Area personnel are periodically available.	Information described to the left, plus experience and benefit descriptions. Area personnel do on-site education.	Information described to the left, plus regularly scheduled on-site outdoor skills demonstrations and clinics.
Illustrated in Matrix **Management Controls**	No visitor controls apparent. No use limits. Enforcement presence very rare.	Signs at key access points on basic user ethics. May have backcountry use restrictions. Enforcement presence rare.	Occasional regulatory signing. Motorized and mechanized use restrictions. Random enforcement presence.	Rules clearly posted, with some seasonal or day-of-week use restrictions. Periodic enforcement presence.	Regulations prominent. Total use limited by permit, reservation, etc. Routine enforcement presence.	Continuous enforcement to redistribute use and reduce user conflicts, hazards, and resource damage.

Keyesville SRMA – Wallow Rock RMZ

PHYSICAL – LAND and FACILITIES: character of the natural landscape

	Primitive		*Backcountry*	*Middle Country*	*Front Country*	*Rural*	*Urban*
	Pristine	*Transition*					
Mapped **Remoteness**	More than 10 miles from any motorized route	More than 3 miles from any motorized route.	More than ½ mile from any kind of motorized route/use area, but not as distant as 3 miles.	On or near motorized routes, but at least ½ mile from all improved roads, though they may be in sight.	On or near improved gravel roads, but at least ½ mile from highways.	On or near paved primary highways, but still within a rural area.	Municipal streets and roads within towns or cities.
Illustrated in Matrix **Naturalness**	Undisturbed natural landscape.		Natural appearing landscape, having modifications not readily noticeable.	Natural appearing landscape, except for obvious motorized routes.	Landscape partially modified by roads/trails, utility lines, etc., but none overpower natural landscape features.	Natural landscape substantially modified by agriculture or industrial development.	Urbanized developments dominate landscape.
Illustrated in Matrix **Visitor Facilities**	None.		Some primitive trails made of native materials, such as log bridges and carved wooden signs.	Maintained and marked trails, simple trailhead developments, improved signs, and very basic toilets.	Improved yet modest, rustic facilities, such as campsites, restrooms, trails, and interpretive signs.	Modern facilities, such as campgrounds, group shelters, boat launches, and occasional exhibits.	Elaborate full-service facilities, such as laundry, restaurants, and groceries.

SOCIAL – VISITOR USE and USERS: character of recreation-tourism use

	Primitive	*Backcountry*	*Middle Country*	*Front Country*	*Rural*	*Urban*
Mapped **Contacts with other groups**	Fewer than 3 encounters a day at campsites and fewer than 6 encounters a day on travel routes.	3-6 encounters a day off travel routes (e.g., campsites) and 7-15 encounters a day on travel routes.	7-14 encounters a day off travel routes (e.g., staging areas) and 15-29 encounters a day en route.	15-29 encounters a day off travel routes (e.g., campgrounds) and 30 or more encounters a day en route.	People seem to be generally everywhere.	Busy place with other people constantly in view.
Illustrated in Matrix **Group Size (other than you own)**	Fewer than or equal to 3 people per group.	4-6 people per group.	7-12 people per group.	13-25 people per group.	26-50 people per group.	Greater than 50 people per group.
Illustrated in Matrix **Evidence of Use**	No alteration of the natural terrain. Footprints only observed. Sounds of people rare.	Areas of alteration uncommon. Little surface vegetation wear observed. Sounds of people infrequent.	Small areas of alteration. Surface vegetation showing wear, with some bare soils. Sounds of people occasionally heard.	Small areas of alteration prevalent. Surface vegetation gone, with compacted soils observed. Sounds of people regularly heard.	A few large areas of alteration. Surface vegetation absent, with hardened soils. Sounds of people frequently heard.	Large areas of alteration prevalent. Some erosion. Constantly hear people.

OPERATIONAL – ADMINISTRATION and SERVICES: character of how Public Land Managers, Cooperative Agencies and Local Businesses Care for the Area and Serve Visitors

	Primitive	*Backcountry*	*Middle Country*	*Front Country*	*Rural*	*Urban*
Mapped **Mechanized Use**	None whatsoever.	Mountain bikes and perhaps other mechanized use, but all are nonmotorized.	Four-wheel-drives, all-terrain vehicles, dirt bikes, or snowmobiles, in addition to nonmotorized mechanized use.	Two-wheel-drive vehicles predominant, but also four-wheel-drives and nonmotorized mechanized use.	Ordinary highway auto and truck traffic is characteristic.	Wide variety of street vehicles, and highway traffic is ever-present.
Illustrated in Matrix **Visitor Services**	None is available on-site.	Basic maps, but area personnel seldom available to provide on-site assistance.	Area brochures and maps, plus area personnel occasionally present to provide on-site assistance.	Information materials describe recreation areas and activities. Area personnel are periodically available.	Information described to the left, plus experience and benefit descriptions. Area personnel do on-site education.	Information described to the left, plus regularly scheduled on-site outdoor skills demonstrations and clinics.
Illustrated in Matrix **Management Controls**	No visitor controls apparent. No use limits. Enforcement presence very rare.	Signs at key access points on basic user ethics. May have backcountry use restrictions. Enforcement presence rare.	Occasional regulatory signing. Motorized and mechanized use restrictions. Random enforcement presence.	Rules clearly posted, with some seasonal or day-of-week use restrictions. Periodic enforcement presence.	Regulations prominent. Total use limited by permit, reservation, etc. Routine enforcement presence.	Continuous enforcement to redistribute use and reduce user conflicts, hazards, and resource damage.

San Joaquin River Gorge SRMA – Pa San RMZ

PHYSICAL – LAND and FACILITIES: character of the natural landscape

	Primitive Pristine	*Transition*	*Backcountry*	*Middle Country*	*Front Country*	*Rural*	*Urban*
Mapped **Remoteness**	More than 10 miles from any motorized route.	More than 3 miles from any motorized route.	More than ½ mile from any kind of motorized route/use area, but not as distant as 3 miles.	On or near motorized routes, but at least ½ mile from all improved roads, though they may be in sight.	On or near improved gravel roads, but at least ½ mile from highways.	On or near paved primary highways, but still within a rural area.	Municipal streets and roads within towns or cities.
Illustrated in Matrix **Naturalness**	Undisturbed natural landscape.		Natural appearing landscape, having modifications not readily noticeable.	Natural appearing landscape, except for obvious motorized routes.	Landscape partially modified by roads/trails, utility lines, etc., but none overpower natural landscape features.	Natural landscape substantially modified by agriculture or industrial development.	Urbanized developments dominate landscape.
Illustrated in Matrix **Visitor Facilities**	None.		Some primitive trails made of native materials, such as log bridges and carved wooden signs.	Maintained and marked trails, simple trailhead developments, improved signs, and very basic toilets.	Improved yet modest, rustic facilities, such as campsites, restrooms, trails, and interpretive signs.	Modern facilities, such as campgrounds, group shelters, boat launches, and occasional exhibits.	Elaborate full-service facilities, such as laundry, restaurants, and groceries.

SOCIAL – VISITOR USE and USERS: character of recreation-tourism use

	Primitive	*Backcountry*	*Middle Country*	*Front Country*	*Rural*	*Urban*
Mapped **Contacts with other groups**	Fewer than 3 encounters a day at campsites and fewer than 6 encounters a day on travel routes.	3-6 encounters a day off travel routes (e.g., campsites) and 7-15 encounters a day on travel routes.	7-14 encounters a day off travel routes (e.g., staging areas) and 15-29 encounters a day en route.	15-29 encounters a day off travel routes (e.g., campgrounds) and 30 or more encounters a day en route.	People seem to be generally everywhere.	Busy place with other people constantly in view.
Illustrated in Matrix **Group Size (other than you own)**	Fewer than or equal to 3 people per group.	4-6 people per group.	7-12 people per group.	13-25 people per group.	26-50 people per group.	Greater than 50 people per group.
Illustrated in Matrix **Evidence of Use**	No alteration of the natural terrain. Footprints only observed. Sounds of people rare.	Areas of alteration uncommon. Little surface vegetation wear observed. Sounds of people infrequent.	Small areas of alteration. Surface vegetation showing wear, with some bare soils. Sounds of people occasionally heard.	Small areas of alteration prevalent. Surface vegetation gone, with compacted soils observed. Sounds of people regularly heard.	A few large areas of alteration. Surface vegetation absent, with hardened soils. Sounds of people frequently heard.	Large areas of alteration prevalent. Some erosion. Constantly hear people.

OPERATIONAL – ADMINISTRATION and SERVICES: character of how Public Land Managers, Cooperative Agencies and Local Businesses Care for the Area and Serve Visitors

	Primitive	*Backcountry*	*Middle Country*	*Front Country*	*Rural*	*Urban*
Mapped **Mechanized Use**	None whatsoever.	Mountain bikes and perhaps other mechanized use, but all are nonmotorized.	Four-wheel-drives, all-terrain vehicles, dirt bikes, or snowmobiles, in addition to nonmotorized mechanized use.	Two-wheel-drive vehicles predominant, but also four-wheel-drives and nonmotorized mechanized use.	Ordinary highway auto and truck traffic is characteristic.	Wide variety of street vehicles, and highway traffic is ever-present.
Illustrated in Matrix **Visitor Services**	None is available on-site.	Basic maps, but area personnel seldom available to provide on-site assistance.	Area brochures and maps, plus area personnel occasionally present to provide on-site assistance.	Information materials describe recreation areas and activities. Area personnel are periodically available.	Information described to the left, plus experience and benefit descriptions. Area personnel do on-site education.	Information described to the left, plus regularly scheduled on-site outdoor skills demonstrations and clinics.
Illustrated in Matrix **Management Controls**	No visitor controls apparent. No use limits. Enforcement presence very rare.	Signs at key access points on basic user ethics. May have backcountry use restrictions. Enforcement presence rare.	Occasional regulatory signing. Motorized and mechanized use restrictions. Random enforcement presence.	Rules clearly posted, with some seasonal or day-of-week use restrictions. Periodic enforcement presence.	Regulations prominent. Total use limited by permit, reservation, etc. Routine enforcement presence.	Continuous enforcement to redistribute use and reduce user conflicts, hazards, and resource damage.

San Joaquin River Gorge SRMA – Tahoot RMZ

PHYSICAL – LAND and FACILITIES: character of the natural landscape

	Primitive		*Backcountry*	*Middle Country*	*Front Country*	*Rural*	*Urban*
	Pristine	*Transition*					
Mapped **Remoteness**	More than 10 miles from any motorized route.	More than 3 miles from any motorized route.	More than ½ mile from any kind of motorized route/use area, but not as distant as 3 miles.	On or near motorized routes, but at least ½ mile from all improved roads, though they may be in sight.	On or near improved gravel roads, but at least ½ mile from highways.	On or near paved primary highways, but still within a rural area.	Municipal streets and roads within towns or cities.
Illustrated in Matrix **Naturalness**	Undisturbed natural landscape.		Natural appearing landscape, having modifications not readily noticeable.	Natural appearing landscape, except for obvious motorized routes.	Landscape partially modified by roads/trails, utility lines, etc., but none overpower natural landscape features.	Natural landscape substantially modified by agriculture or industrial development.	Urbanized developments dominate landscape.
Illustrated in Matrix **Visitor Facilities**	None.		Some primitive trails made of native materials, such as log bridges and carved wooden signs.	Maintained and marked trails, simple trailhead developments, improved signs, and very basic toilets.	Improved yet modest, rustic facilities, such as campsites, restrooms, trails, and interpretive signs.	Modern facilities, such as campgrounds, group shelters, boat launches, and occasional exhibits.	Elaborate full-service facilities, such as laundry, restaurants, and groceries.

SOCIAL – VISITOR USE and USERS: character of recreation-tourism use

	Primitive	*Backcountry*	*Middle Country*	*Front Country*	*Rural*	*Urban*
Mapped **Contacts with other groups**	Fewer than 3 encounters a day at campsites and fewer than 6 encounters a day on travel routes.	3-6 encounters a day off travel routes (e.g., campsites) and 7-15 encounters a day on travel routes.	7-14 encounters a day off travel routes (e.g., staging areas) and 15-29 encounters a day en route.	15-29 encounters a day off travel routes (e.g., campgrounds) and 30 or more encounters a day en route.	People seem to be generally everywhere.	Busy place with other people constantly in view.
Illustrated in Matrix **Group Size (other than you own)**	Fewer than or equal to 3 people per group.	4-6 people per group.	7-12 people per group.	13-25 people per group.	26-50 people per group.	Greater than 50 people per group.
Illustrated in Matrix **Evidence of Use**	No alteration of the natural terrain. Footprints only observed. Sounds of people rare.	Areas of alteration uncommon. Little surface vegetation wear observed. Sounds of people infrequent.	Small areas of alteration. Surface vegetation showing wear, with some bare soils. Sounds of people occasionally heard.	Small areas of alteration prevalent. Surface vegetation gone, with compacted soils observed. Sounds of people regularly heard.	A few large areas of alteration. Surface vegetation absent, with hardened soils. Sounds of people frequently heard.	Large areas of alteration prevalent. Some erosion. Constantly hear people.

OPERATIONAL – ADMINISTRATION and SERVICES: character of how Public Land Managers, Cooperative Agencies and Local Businesses Care for the Area and Serve Visitors

Mapped

	Primitive	*Backcountry*	*Middle Country*	*Front Country*	*Rural*	*Urban*
Mechanized Use	None whatsoever.	Mountain bikes and perhaps other mechanized use, but all are nonmotorized.	Four-wheel-drives, all-terrain vehicles, dirt bikes, or snowmobiles, in addition to nonmotorized mechanized use.	Two-wheel-drive vehicles predominant, but also four-wheel-drives and nonmotorized mechanized use.	Ordinary highway auto and truck traffic is characteristic.	Wide variety of street vehicles, and highway traffic is ever-present.

Illustrated in Matrix

Visitor Services	None is available on-site.	Basic maps, but area personnel seldom available to provide on-site assistance	Area brochures and maps, plus area personnel occasionally present to provide on-site assistance.	Information materials describe recreation areas and activities. Area personnel are periodically available.	Information described to the left, plus experience and benefit descriptions. Area personnel do on-site education.	Information described to the left, plus regularly scheduled on-site outdoor skills demonstrations and clinics.
Management Controls	No visitor controls apparent. No use limits. Enforcement presence very rare.	Signs at key access points on basic user ethics. May have backcountry use restrictions. Enforcement presence rare.	Occasional regulatory signing. Motorized and mechanized use restrictions. Random enforcement presence.	Rules clearly posted, with some seasonal or day-of-week use restrictions. Periodic enforcement presence.	Regulations prominent. Total use limited by permit, reservation, etc. Routine enforcement presence.	Continuous enforcement to redistribute use and reduce user conflicts, hazards, and resource damage.

San Joaquin River Gorge SRMA – Wu Ki'Oh RMZ

PHYSICAL – LAND and FACILITIES: character of the natural landscape

	Primitive Pristine	*Primitive Transition*	*Backcountry*	*Middle Country*	*Front Country*	*Rural*	*Urban*
Mapped **Remoteness**	More than 10 miles from any motorized route.	More than 3 miles from any motorized route.	More than ½ mile from any kind of motorized route/use area, but not as distant as 3 miles.	On or near motorized routes, but at least ½ mile from all improved roads, though they may be in sight.	On or near improved gravel roads, but at least ½ mile from highways.	On or near paved primary highways, but still within a rural area.	Municipal streets and roads within towns or cities.
Illustrated in Matrix **Naturalness**	Undisturbed natural landscape.		Natural appearing landscape, having modifications not readily noticeable.	Natural appearing landscape, except for obvious motorized routes.	Landscape partially modified by roads/trails, utility lines, etc., but none overpower natural landscape features.	Natural landscape substantially modified by agriculture or industrial development.	Urbanized developments dominate landscape.
Illustrated in Matrix **Visitor Facilities**	None.		Some primitive trails made of native materials, such as log bridges and carved wooden signs.	Maintained and marked trails, simple trailhead developments, improved signs, and very basic toilets.	Improved yet modest, rustic facilities, such as campsites, restrooms, trails, and interpretive signs.	Modern facilities, such as campgrounds, group shelters, boat launches, and occasional exhibits.	Elaborate full-service facilities, such as laundry, restaurants, and groceries.

SOCIAL – VISITOR USE and USERS: character of recreation-tourism use

	Primitive	*Backcountry*	*Middle Country*	*Front Country*	*Rural*	*Urban*
Mapped **Contacts with other groups**	Fewer than 3 encounters a day at campsites and fewer than 6 encounters a day on travel routes.	3-6 encounters a day off travel routes (e.g., campsites) and 7-15 encounters a day on travel routes.	7-14 encounters a day off travel routes (e.g., staging areas) and 15-29 encounters a day en route.	15-29 encounters a day off travel routes (e.g., campgrounds) and 30 or more encounters a day en route.	People seem to be generally everywhere.	Busy place with other people constantly in view.
Illustrated in Matrix **Group Size (other than you own)**	Fewer than or equal to 3 people per group.	4-6 people per group.	7-12 people per group.	13-25 people per group.	26-50 people per group.	Greater than 50 people per group.
Illustrated in Matrix **Evidence of Use**	No alteration of the natural terrain. Footprints only observed. Sounds of people rare.	Areas of alteration uncommon. Little surface vegetation wear observed. Sounds of people infrequent.	Small areas of alteration. Surface vegetation showing wear, with some bare soils. Sounds of people occasionally heard.	Small areas of alteration prevalent. Surface vegetation gone with compacted soils observed. Sounds of people regularly heard.	A few large areas of alteration. Surface vegetation absent, with hardened soils. Sounds of people frequently heard.	Large areas of alteration prevalent. Some erosion. Constantly hear people.

OPERATIONAL – ADMINISTRATION and SERVICES: character of how Public Land Managers, Cooperative Agencies and Local Businesses Care for the Area and Serve Visitors

	Primitive	*Backcountry*	*Middle Country*	*Front Country*	*Rural*	*Urban*
Mapped **Mechanized Use**	None whatsoever.	Mountain bikes and perhaps other mechanized use, but all are nonmotorized.	Four-wheel-drives, all-terrain vehicles, dirt bikes, or snowmobiles, in addition to nonmotorized mechanized use.	Two-wheel-drive vehicles predominant, but also four-wheel-drives and nonmotorized mechanized use.	Ordinary highway auto and truck traffic is characteristic.	Wide variety of street vehicles, and highway traffic is ever-present.
Illustrated in Matrix **Visitor Services**	None is available on-site.	Basic maps, but area personnel seldom available to provide on-site assistance.	Area brochures and maps, plus area personnel occasionally present to provide on-site assistance.	Information materials describe recreation areas and activities. Area personnel are periodically available.	Information described to the left, plus experience and benefit descriptions. Area personnel do on-site education.	Information described to the left, plus regularly scheduled on-site outdoor skills demonstrations and clinics.
Management Controls	No visitor controls apparent. No use limits. Enforcement presence very rare.	Signs at key access points on basic user ethics. May have backcountry use restrictions. Enforcement presence rare.	Occasional regulatory signing. Motorized and mechanized use restrictions. Random enforcement presence.	Rules clearly posted, with some seasonal or day-of-week use restrictions. Periodic enforcement presence.	Regulations prominent. Total use limited by permit, reservation, etc. Routine enforcement presence.	Continuous enforcement to redistribute use and reduce user conflicts, hazards, and resource damage.

Temblor SRMA – Temblor Range RMZ

PHYSICAL – LAND and FACILITIES: character of the natural landscape

	Primitive		*Backcountry*	*Middle Country*	*Front Country*	*Rural*	*Urban*
	Pristine	*Transition*					
Mapped **Remoteness**	More than 10 miles from any motorized route.	More than 3 miles from any motorized route.	More than ½ mile from any kind of motorized route/use area, but not as distant as 3 miles.	On or near motorized routes, but at least ½ mile from all improved roads, though they may be in sight.	On or near improved gravel roads, but at least ½ mile from highways.	On or near paved primary highways, but still within a rural area.	Municipal streets and roads within towns or cities.
Illustrated in Matrix **Naturalness**	Undisturbed natural landscape.		Natural appearing landscape, having modifications not readily noticeable.	Natural appearing landscape, except for obvious motorized routes.	Landscape partially modified by roads/trails, utility lines, etc., but none overpower natural landscape features.	Natural landscape substantially modified by agriculture or industrial development.	Urbanized developments dominate landscape.
Illustrated in Matrix **Visitor Facilities**	None.		Some primitive trails made of native materials, such as log bridges and carved wooden signs.	Maintained and marked trails, simple trailhead developments, improved signs, and very basic toilets.	Improved yet modest, rustic facilities, such as campsites, restrooms, trails, and interpretive signs.	Modern facilities, such as campgrounds, group shelters, boat launches, and occasional exhibits.	Elaborate full-service facilities, such as laundry, restaurants, and groceries.

SOCIAL – VISITOR USE and USERS: character of recreation-tourism use

	Primitive	*Backcountry*	*Middle Country*	*Front Country*	*Rural*	*Urban*
Mapped **Contacts with other groups**	Fewer than 3 encounters a day at campsites and fewer than 6 encounters a day on travel routes.	3-6 encounters a day off travel routes (e.g., campsites) and 7-15 encounters a day on travel routes.	7-14 encounters a day off travel routes (e.g., staging areas) and 15-29 encounters a day en route	15-29 encounters a day off travel routes (e.g., campgrounds) and 30 or more encounters a day en route.	People seem to be generally everywhere.	Busy place with other people constantly in view.
Illustrated in Matrix **Group Size (other than you own)**	Fewer than or equal to 3 people per group.	4-6 people per group.	7-12 people per group	13-25 people per group.	26-50 people per group.	Greater than 50 people per group.
Illustrated in Matrix **Evidence of Use**	No alteration of the natural terrain. Footprints only observed. Sounds of people rare.	Areas of alteration uncommon. Little surface vegetation wear observed. Sounds of people infrequent.	Small areas of alteration. Surface vegetation showing wear, with some bare soils. Sounds of people occasionally heard.	Small areas of alteration prevalent. Surface vegetation gone with compacted soils observed. Sounds of people regularly heard.	A few large areas of alteration. Surface vegetation absent, with hardened soils. Sounds of people frequently heard.	Large areas of alteration prevalent. Some erosion. Constantly hear people.

OPERATIONAL – ADMINISTRATION and SERVICES: character of how Public Land Managers, Cooperative Agencies and Local Businesses Care for the Area and Serve Visitors

	Primitive	*Backcountry*	*Middle Country*	*Front Country*	*Rural*	*Urban*
Mapped **Mechanized Use**	None whatsoever.	Mountain bikes and perhaps other mechanized use, but all is nonmotorized.	Four-wheel-drives, all-terrain vehicles, dirt bikes, or snowmobiles, in addition to nonmotorized mechanized use.	Two-wheel-drive vehicles predominant, but also four-wheel-drives and nonmotorized mechanized use.	Ordinary highway auto and truck traffic is characteristic.	Wide variety of street vehicles, and highway traffic is ever-present.
Illustrated in Matrix **Visitor Services**	None is available on-site.	Basic maps, but area personnel seldom available to provide on-site assistance.	Area brochures and maps, plus area personnel occasionally present to provide on-site assistance.	Information materials describe recreation areas and activities. Area personnel are periodically available.	Information described to the left, plus experience and benefit descriptions. Area personnel do on-site education.	Information described to the left, plus regularly scheduled on-site outdoor skills demonstrations and clinics.
Illustrated in Matrix **Management Controls**	No visitor controls apparent. No use limits. Enforcement presence very rare.	Signs at key access points on basic user ethics. May have backcountry use restrictions. Enforcement presence rare.	Occasional regulatory signing. Motorized and mechanized use restrictions. Random enforcement presence.	Rules clearly posted, with some seasonal or day-of-week use restrictions. Periodic enforcement presence.	Regulations prominent. Total use limited by permit, reservation, etc. Routine enforcement presence.	Continuous enforcement to redistribute use and reduce user conflicts, hazards, and resource damage.

Temblor SRMA – Urban Interface RMZ

PHYSICAL – LAND and FACILITIES: character of the natural landscape

	Primitive		*Backcountry*	*Middle Country*	*Front Country*	*Rural*	*Urban*
	Pristine	*Transition*					
Mapped **Remoteness**	More than 10 miles from any motorized route.	More than 3 miles from any motorized route.	More than ½ mile from any kind of motorized route/use area, but not as distant as 3 miles.	On or near motorized routes, but at least ½ mile from all improved roads, though they may be in sight.	On or near improved gravel roads, but at least ½ mile from highways.	On or near paved primary highways, but still within a rural area.	Municipal streets and roads within towns or cities.
Illustrated in Matrix **Naturalness**	Undisturbed natural landscape.		Natural appearing landscape, having modifications not readily noticeable.	Natural appearing landscape, except for obvious motorized routes.	Landscape partially modified by roads/trails, utility lines, etc., but none overpower natural landscape features.	Natural landscape substantially modified by agriculture or industrial development.	Urbanized developments dominate landscape.
Illustrated in Matrix **Visitor Facilities**	None.		Some primitive trails made of native materials, such as log bridges and carved wooden signs.	Maintained and marked trails, simple trailhead developments, improved signs, and very basic toilets.	Improved yet modest, rustic facilities, such as campsites, restrooms, trails, and interpretive signs.	Modern facilities, such as campgrounds, group shelters, boat launches, and occasional exhibits.	Elaborate full-service facilities, such as laundry, restaurants, and groceries.

SOCIAL – VISITOR USE and USERS: character of recreation-tourism use

	Primitive	*Backcountry*	*Middle Country*	*Front Country*	*Rural*	*Urban*
Mapped **Contacts with other groups**	Fewer than 3 encounters a day at campsites and fewer than 6 encounters a day on travel routes.	3-6 encounters a day off travel routes (e.g., campsites) and 7-15 encounters a day on travel routes.	7-14 encounters a day off travel routes (e.g., staging areas) and 15-29 encounters a day en route	15-29 encounters a day off travel routes (e.g., campgrounds) and 30 or more encounters a day en route.	People seem to be generally everywhere.	Busy place with other people constantly in view.
Illustrated in Matrix **Group Size (other than you own)**	Fewer than or equal to 3 people per group.	4-6 people per group.	7-12 people per group	13-25 people per group.	26-50 people per group.	Greater than 50 people per group.
Illustrated in Matrix **Evidence of Use**	No alteration of the natural terrain. Footprints only observed. Sounds of people rare.	Areas of alteration uncommon. Little surface vegetation wear observed. Sounds of people infrequent.	Small areas of alteration. Surface vegetation showing wear, with some bare soils. Sounds of people occasionally heard.	Small areas of alteration prevalent. Surface vegetation gone with compacted soils observed. Sounds of people regularly heard.	A few large areas of alteration. Surface vegetation absent, with hardened soils. Sounds of people frequently heard.	Large areas of alteration prevalent. Some erosion. Constantly hear people.

OPERATIONAL – ADMINISTRATION and SERVICES: character of how Public Land Managers, Cooperative Agencies and Local Businesses Care for the Area and Serve Visitors

Mapped

	Primitive	*Backcountry*	*Middle Country*	*Front Country*	*Rural*	*Urban*
Mechanized Use	None whatsoever.	Mountain bikes and perhaps other mechanized use, but all is nonmotorized.	Four-wheel-drives, all-terrain vehicles, dirt bikes, or snowmobiles, in addition to nonmotorized mechanized use.	Two-wheel-drive vehicles predominant, but also four-wheel-drives and nonmotorized mechanized use.	Ordinary highway auto and truck traffic is characteristic.	Wide variety of street vehicles, and highway traffic is ever-present.

Illustrated in Matrix

Visitor Services	None is available on-site.	Basic maps, but area personnel seldom available to provide on-site assistance.	Area brochures and maps, plus area personnel occasionally present to provide on-site assistance.	Information materials describe recreation areas and activities. Area personnel are periodically available.	Information described to the left, plus experience and benefit descriptions. Area personnel do on-site education.	Information described to the left, plus regularly scheduled on-site outdoor skills demonstrations and clinics.
Management Controls	No visitor controls apparent. No use limits. Enforcement presence very rare.	Signs at key access points on basic user ethics. May have backcountry use restrictions. Enforcement presence rare.	Occasional regulatory signing. Motorized and mechanized use restrictions. Random enforcement presence.	Rules clearly posted, with some seasonal or day-of-week use restrictions. Periodic enforcement presence.	Regulations prominent. Total use limited by permit, reservation, etc. Routine enforcement presence.	Continuous enforcement to redistribute use and reduce user conflicts, hazards, and resource damage.

H.4 RMZ MANAGEMENT FRAMEWORK

Creating a management framework for each RMZ is part of the Land Use Planning level decision that initially identifies the SRMA. The RMZ management framework is a combination of allocation decisions bringing together the previously identified setting prescriptions with the management objectives and actions needed to achieve them. Specifically for each RMZ the following decisions are made:

Niche—This refers to the niche market of the SRMA which the RMZ will primarily serve. It is a specifically focused and targetable subset of the overall demographic that utilizes an area and is drawn by the SRMA market. As such, it can be through of as a narrowly defined group of potential customers.

Recreation Management Objectives—This are the specific opportunities available (or to be provided by) an RMZ and the outcomes to be attended. They can be described as activities, experiences and benefits.

Recreation Setting Character Conditions—These are the prescribed/desired recreation resource settings, from the NRRSM.

Recreation Management, Marketing, Monitoring and Administrative Support Action—These are the actions that steer the activity level planning and implementation within each of the RMZs to achieve the niche, management objectives and desired settings. At the land use planning level, these generally pertain to achieving specific objectives or present a broad strategy, for which further planning is required.

Although the presence or absence of SRMAs and their associated RMZs varies by alternative, the niche, recreation management objectives and desired recreation setting character conditions are invariable. The specific management, marketing, monitoring, and administrative support actions for SRMAs occurring within more than one alternative does change, but for ease of understanding, only the primary actions are presented below.

SRMA Name: Chimney Peak **RMZ Name:** Byway

RMZ Market Segment (Niche)		
Unique driving experience between designated Wilderness areas.		
Recreation Management Objective		
Manage this zone to provide opportunities for visitors to engage in targeted activities and gain knowledge and appreciation of the byway theme though interpretation. Reduce impacts on natural and cultural resources and protect recreational opportunities from potentially conflicting uses. Increase developments and signing to enhance the targeted activities.		
Targeted Opportunities and Outcomes		
Activities	**Experiences**	**Benefits**
Driving for Pleasure Wildlife Viewing Scenic Appreciation	Enjoying closeness of family and friends Learning more about the things that are there Enjoy having easy access to natural landscapes	***Personal:*** Improved outdoor knowledge and self-confidence; enhanced awareness and understanding of nature ***Community:*** Heightened sense of satisfaction with the community ***Economic:*** More positive contributions to local and regional economies; increased local tourism revenues ***Environmental:*** Increased awareness and protection of natural landscapes; reduced negative human impacts such as litter, vegetative trampling, and unplanned trails

Prescribed Setting Character Conditions					
Physical		**Social**		**Operational**	
Remoteness:	Middle Country	***Contacts:***	Backcountry	***Access:***	Middle Country
Naturalness:	Middle Country	***Group Size:***	Backcountry	***Visitor Services:***	Backcountry
Facilities:	Middle Country	***Evidence of Use:***	Backcountry	***Mgmt. Controls:***	Backcountry

Implementation (Activity) Planning Framework	
Management	Maintain and improve campgrounds at Chimney Creek, Long Valley Loop and Walker Pass. Continue to establish nonmechanized trails to connect to and from the PCNST RMZ.
Marketing	Establish a program of interpretive materials along the Chimney Peak Backcountry Byway. Market the Chimney Peak Backcountry Byway on BKFO materials.
Monitoring	-
Administration	Establish amenity fees for camping at developed campgrounds within the RMZ Manage as VRM Class II.

SRMA Name: Chimney Peak **RMZ Name:** PCNST

RMZ Market Segment (Niche)		
Exploration of extensive National Scenic Trail along the Pacific Rim.		
Recreation Management Objective		
Manage this zone to provide world class opportunities for visitors to find solitude, engage in unconfined recreation, and experience personal challenge and reflection on the Pacific Crest National Scenic Trail		
Targeted Opportunities and Outcomes		
Activities	**Experiences**	**Benefits**
Destination Hiking Horseback Riding/Packing Primitive Camping	Developing skills and abilities Enjoying the esteem of others Testing personal endurance Gaining a greater sense of self-confidence Telling others about the trip	***Personal:*** Improved mental well being; greater self-reliance; improved skills for outdoor enjoyment; a spiritual connection to the world ***Community:*** Heightened sense of satisfaction with the community ***Economic:*** More positive contributions to local and regional economies; increased local tourism revenues ***Environmental:*** Increased awareness and protection of natural landscapes; reduced negative human impacts such as litter, vegetative trampling, and unplanned trails

Prescribed Setting Character Conditions					
Physical		**Social**		**Operational**	
Remoteness:	Backcountry	***Contacts:***	Backcountry	***Access:***	Primitive
Naturalness:	Backcountry	***Group Size:***	Backcountry	***Visitor Services:***	Backcountry
Facilities:	Backcountry	***Evidence of Use:***	Backcountry	***Mgmt. Controls:***	Backcountry

Implementation (Activity) Planning Framework	
Management	Continue to establish connecting trails from and to the PCNST. Improve the PCNST trailhead at Walker Pass.
Marketing	Make additional PCNST and Wilderness information available on kiosks at PCNST trailheads.
Monitoring	Continue use of Volunteers for trail monitoring.
Administration	Manage as VRM Class I

SRMA Name: Chimney Peak **RMZ Name:** Wilderness

RMZ Market Segment (Niche)		
Unconfined primitive recreation within several designated Wilderness areas.		
Recreation Management Objective		
Manage this zone to provide opportunities for visitors to find solitude, engage in unconfined recreation, and experience personal challenge and reflection. Preserve the primitive opportunities and wilderness characteristics in this zone.		
Targeted Opportunities and Outcomes		
Activities	**Experiences**	**Benefits**
Hiking Horseback Riding Primitive Camping	Gaining a greater sense of self-confidence Testing personal endurance Savoring the total sensory experience (sight sound, and smell) of a natural landscape Feeling good about solitude, being isolated and independent Enjoying an escape from crowds of people Nurturing personal spiritual values and growth	***Personal:*** A more holistic sense of wellness; a greater sensitivity to awareness of outdoor aesthetics, nature's art and elegance; greater self-reliance; a closer relationship with the natural world ***Community:*** Greater freedom from urban living ***Economic:*** More positive contributions to local and regional economies; increased local tourism revenues ***Environmental:*** Increased awareness and protection of natural landscapes; reduced negative human impacts such as litter, vegetative trampling, and unplanned trails

Prescribed Setting Character Conditions					
Physical		**Social**		**Operational**	
Remoteness:	Backcountry	***Contacts:***	Primitive	***Access:***	Primitive
Naturalness:	Primitive	***Group Size:***	Backcountry	***Visitor Services:***	Primitive
Facilities:	Primitive	***Evidence of Use:***	primitive	***Mgmt. Controls:***	Primitive

Implementation (Activity) Planning Framework	
Management	Manage as congressionally designated Wilderness area.
Marketing	Wilderness information available at Kiosks in other RMZs.
Monitoring	Implement Wilderness Character Monitoring.
Administration	Manage as VRM Class I.

SRMA Name: Keyesville **RMZ Name:** French Gulch

RMZ Market Segment (Niche)		
Extensive trail systems for multiple users of varying experience levels.		
Recreation Management Objective		
Manage to provide opportunities for visitors to engage in dispersed camping and OHV recreation. The zone will also serve as a staging area for long-range OHV touring of both BLM and US Forest Service lands.		
Targeted Opportunities and Outcomes		
Activities	**Experiences**	**Benefits**
Cultural Discovery Prospecting OHV Trail Riding Horseback Riding	Developing skills and abilities Testing personal endurance Gaining a greater sense of self-confidence Telling others about the trip Enjoying risk-taking adventure Discussing equipment with others	***Personal:*** Improved mental well being; greater self-reliance; improved skills for outdoor enjoyment ***Community:*** Heightened sense of satisfaction with the community ***Economic:*** Improved local economic stability; maintenance of community's distinctive recreation tourism market ***Environmental:*** Increased awareness and protection of natural landscapes; reduced negative human impacts such as litter, vegetative trampling, and unplanned trails

Prescribed Setting Character Conditions					
Physical		**Social**		**Operational**	
Remoteness:	Middle Country	***Contacts:***	Middle Country	***Access:***	Middle Country
Naturalness:	Middle Country	***Group Size:***	Backcountry	***Visitor Services:***	Middle Country
Facilities:	Middle Country	***Evidence of Use:***	Front Country	***Mgmt. Controls:***	Middle Country

Implementation (Activity) Planning Framework	
Management	Manage in coordination with adjacent National Forest. Work with user groups and partners to create a versatile trail system supporting a variety of uses, skill levels and experiences.
Marketing	Establish collaborative partnerships with local interest groups. Promote volunteerism/friends group for the area. Install information and interpretive kiosks at key locations within the RMZ. Disseminate information brochures.
Monitoring	-
Administration	Manage as VRM Class III. Support programs and events though issuance of SRPs.

SRMA Name: Keyesville **RMZ Name:** Gold Fever

RMZ Market Segment (Niche)
Interpretation of gold mining history and historical resources.
Recreation Management Objective
Manage this zone to provide opportunities for visitors to engage in personal and guided (interpreted) discovery of the historical significance of the area. Manage this zone to provide opportunities for community residents and regional, national, and international visitors who use the area for sustainable day use and camping, OHV touring opportunities, opportunities to learn about historical mining, and to gain appreciation of the natural setting of the greater Keyesville region through self-discovery.

Targeted Opportunities and Outcomes

Activities	Experiences	Benefits
Cultural Interpretation Historical Appreciation Hiking OHV Trail Riding Prospecting	Savoring the total sensory experience of a natural landscape Escaping everyday responsibilities for awhile Feeling good about the way shared cultural heritage is being protected Learning about things here Just knowing this attraction is in or near the community	***Personal:*** Greater respect for shared cultural heritage; closer relationship with the natural world ***Community:*** Greater understanding of the community's cultural identity; greater community involvement in recreation and other land use decisions ***Economic:*** Improved local economic stability; maintenance of community's distinctive recreation tourism market ***Environmental:*** Increased awareness and protection of natural landscapes; reduced negative human impacts such as litter, vegetative trampling, and unplanned trails

Prescribed Setting Character Conditions

Physical		Social		Operational	
Remoteness:	Front Country	***Contacts:***	Front Country	***Access:***	Front Country
Naturalness:	Front Country	***Group Size:***	Middle Country	***Visitor Services:***	Rural
Facilities:	Front Country	***Evidence of Use:***	Front Country	***Mgmt. Controls:***	Middle Country

Implementation (Activity) Planning Framework

Management	Stabilize and maintain historic buildings and facilities to support public use. Use the Walker Cabin site as a visitor contact station from which it initiate interpretive programs.
Marketing	Establish collaborative partnerships with local interest groups. Promote volunteerism/friends group for the area. Install information and interpretive kiosks at key locations within the RMZ. Disseminate information brochures. Establish interpretative programs highlighting mining history of the area.
Monitoring	-
Administration	Manage as VRM Class III. Support programs and events though issuance of SRPs.

SRMA Name: Keyesville	**RMZ Name:** Gold Fever
	Proposed for the withdrawal from mining laws. Close to mineral material disposal and soil mineral leasing. Incorporate withdrawn areas into a recreation mining area. Manage recreational mining through a permit system (including nominal fee). Close the RMZ to the discharge of firearms.

SRMA Name: Keyesville **RMZ Name:** The Dam

RMZ Market Segment (Niche)		
River access for commercial and causal white-water kayaking and rafting.		
Recreation Management Objective		
Manage this RMZ in coordination with the US Forest Service with cooperation from local permitted outfitters and guides to provide opportunities to access the Lower Kern River for high-adventure activities whilst promoting visitor health and safety.		
Targeted Opportunities and Outcomes		
Activities	**Experiences**	**Benefits**
White-Water Rafting White-Water Kayaking Water Play	High Adventure/Adrenaline Rush Personal Challenge Self Discovery Appreciation for the power of the natural world.	***Personal:*** Increase self-respect; sense of achievement ***Community:*** Bonding through shared experiences ***Economic:*** Increased draw to destination; promotion of local business (outfitters); improved local economic stability; maintenance of community's distinctive recreation tourism market ***Environmental:*** Increased awareness and protection of natural landscapes; reduced negative human impacts such as litter, vegetative trampling, and unplanned trails

Prescribed Setting Character Conditions					
Physical		**Social**		**Operational**	
Remoteness:	Front Country	***Contacts:***	Front Country	***Access:***	Front Country
Naturalness:	Front Country	***Group Size:***	Rural	***Visitor Services:***	Front Country
Facilities:	Rural	***Evidence of Use:***	Front Country	***Mgmt. Controls:***	Front Country

Implementation (Activity) Planning Framework	
Management	Improve existing raft launch facilities. Designate Granite Launch for authorized use only.
Marketing	Establish collaborative partnerships with local interest groups. Promote volunteerism/friends group for the area. Install information and interpretive kiosks at key locations within the RMZ. Disseminate information brochures.
Monitoring	-
Administration	Manage as VRM Class III. Support programs and events though issuance of SRPs. Manage SRPs for River access in coordination with the US Forest Service. Proposed for the withdrawal from mining laws. Close to mineral material disposal and soil mineral leasing. Manage recreational mining through a permit system (including nominal fee). Close the RMZ to the discharge of firearms. Restrict motorized access to street-legal vehicles only. Impose day use only restrictions. Prohibit campfires.

SRMA Name: Keyesville **RMZ Name:** Wallow Rock

RMZ Market Segment (Niche)		
Structured developed camping with easy access to the river.		
Recreation Management Objective		
Manage to provide visitors with access to a wide variety of recreational opportunities in the area and enjoy camping in a developed setting, specifically tailored to larger group camping experiences.		
Targeted Opportunities and Outcomes		
Activities	**Experiences**	**Benefits**
Camping Group Camping	Enjoying the closeness of friends and family Relishing group affiliation and togetherness Enjoying meeting new people with similar interests Increased independence/autonomy	***Personal:*** Stronger ties with family and friends; restore mind from unwanted stress ***Community:*** Greater interaction with visitors from different cultures ***Economic:*** Improved local economic stability; maintenance of community's distinctive recreation tourism market ***Environmental:*** Increased awareness and protection of natural landscapes; reduced negative human impacts such as litter, vegetative trampling, and unplanned trails

Prescribed Setting Character Conditions					
Physical		**Social**		**Operational**	
Remoteness:	Rural	***Contacts:***	Rural	***Access:***	Front Country
Naturalness:	Front Country	***Group Size:***	Front Country	***Visitor Services:***	Rural
Facilities:	Rural	***Evidence of Use:***	Rural	***Mgmt. Controls:***	Rural

Implementation (Activity) Planning Framework	
Management	Developed designated individual and group campsites, including creating camping pads. Provide extensive visitor services, including trash, toilets. Redesign and engineer access road to eliminate steep grade and reduce erosion.
Marketing	Establish collaborative partnerships with local interest groups. Promote volunteerism/friends group for the area. Install information and interpretive kiosks at key locations within the RMZ. Disseminate information brochures.
Monitoring	Establish Campground host program
Administration	Manage as VRM Class IV. Proposed for the withdrawal from mining laws. Close to mineral material disposal and soil mineral leasing. Close the RMZ to the discharge of firearms. Establish fees for use of camping facilities. Enforce a leash law for all pets.

SRMA Name: San Joaquin River Gorge **RMZ Name:** Pa San

RMZ Market Segment (Niche)		
Semiprimitive directed nonmotorized trail use in a natural scenic setting.		
Recreation Management Objective		
Manage this RMZ to provide opportunities for visitors to engage in a remote isolated recreational experience. Manage this RMZ to provide opportunities for community residents and regional visitors who use the area seasonally to engage in sustainable, primarily primitive day-use opportunities and gain appreciation of the natural setting of the San Joaquin River corridor though self-discovery and exploration.		
Targeted Opportunities and Outcomes		
Activities	**Experiences**	**Benefits**
Hiking Mountain Biking Horseback Riding	Developing skills and abilities Testing personal endurance Savoring the total sensory experience of a natural landscape Escaping everyday responsibilities for awhile	***Personal:*** Greater self-reliance; improved skills for outdoor enjoyment; closer relationship with the natural world ***Community:*** Greater freedom from urban living ***Economic:*** More positive contributions to local and regional economies ***Environmental:*** Increased awareness and protection of natural landscapes; reduced negative human impacts such as litter, vegetative trampling, and unplanned trails

Prescribed Setting Character Conditions					
Physical		**Social**		**Operational**	
Remoteness:	Backcountry	***Contacts:***	Middle Country	***Access:***	Backcountry
Naturalness:	Backcountry	***Group Size:***	Middle Country	***Visitor Services:***	Middle Country
Facilities:	Backcountry	***Evidence of Use:***	Middle Country	***Mgmt. Controls:***	Middle Country

Implementation (Activity) Planning Framework	
Management	Maintain and improve network for recreation facilities, including trails and campgrounds. Install signage to reduce user conflict and conflict with adjacent landowners.
Marketing	-
Monitoring	-
Administration	Manage as VRM Class I

SRMA Name: San Joaquin River Gorge **RMZ Name:** Tahoot

RMZ Market Segment (Niche)		
Interpretation and education programs for regional community.		
Recreation Management Objective		
Manage this zone to provide opportunities for community residents and visitors to engage in sustainable personal discovery, interpretive programs, and educational opportunities, while protecting critical resources.		
Targeted Opportunities and Outcomes		
Activities	**Experiences**	**Benefits**
Camping Group Camping Interpretation Environmental Education Hiking Horseback Riding Mountain Biking	Enjoying easy access to natural landscapes Enjoying access to hands-on environmental learning Enjoying needed physical exercise	***Personal:*** Better-informed and more responsible visitor; enhanced awareness and understanding of nature; increased appreciation of the area's cultural history ***Community:*** Greater community valuation of its ethnic diversity; greater protection of the area's historic and archaeological sites ***Economic:*** More positive contributions to local and regional economies ***Environmental:*** Increased awareness and protection of natural landscapes; reduced negative human impacts such as litter, vegetative trampling, and unplanned trails

Prescribed Setting Character Conditions					
Physical		**Social**		**Operational**	
Remoteness:	Rural	***Contacts:***	Front Country	***Access:***	Front Country
Naturalness:	Front Country	***Group Size:***	Rural	***Visitor Services:***	Rural
Facilities:	Front Country	***Evidence of Use:***	Rural	***Mgmt. Controls:***	Rural

Implementation (Activity) Planning Framework	
Management	Maintain and improve network for recreation facilities, including trails and campgrounds. Install signage to reduce user conflict and conflict with adjacent landowners.
Marketing	Develop community collaboration and partnerships. Provide environmental education opportunities within outdoor classroom settings.
Monitoring	-
Administration	Manage as VRM Class IV. Establish fees for programs and use of facilities. Acquire lands that would facilitate management of the area.

SRMA Name: San Joaquin River Gorge **RMZ Name:** Wu Ki'Oh

RMZ Market Segment (Niche)		
Multiple river accesses for recreational experiences of varying complexity.		
Recreation Management Objective		
Manage this RMZ to provide opportunities for community residents and regional visitors to engage in sustainable, primarily primitive day-use opportunities and gain appreciation of the natural setting of the San Joaquin River though self-discovery and exploration		
Targeted Opportunities and Outcomes		
Activities	**Experiences**	**Benefits**
Fishing Water Play Gold Panning Kayaking	Developing skills and abilities Testing personal endurance Enjoying risk-taking adventure Savoring the total sensory experience of a natural landscape Escaping everyday responsibilities for awhile	***Personal:*** Greater self-reliance; improved skills for outdoor enjoyment; closer relationship with the natural world ***Community:*** Greater freedom from urban living ***Economic:*** More positive contributions to local and regional economies ***Environmental:*** Increased awareness and protection of natural landscapes; reduced negative human impacts such as litter, vegetative trampling, and unplanned trails

Prescribed Setting Character Conditions					
Physical		**Social**		**Operational**	
Remoteness:	Front Country	***Contacts:***	Middle Country	***Access:***	Backcountry
Naturalness:	Backcountry	***Group Size:***	Middle Country	***Visitor Services:***	Front Country
Facilities:	Middle Country	***Evidence of Use:***	Middle Country	***Mgmt. Controls:***	Middle Country

Implementation (Activity) Planning Framework	
Management	Maintain and improve network for recreation facilities, including trails and campgrounds. Install signs to reduce user conflict and conflict with adjacent landowners.
Marketing	Develop community collaboration and partnerships. Provide environmental education opportunities within outdoor classroom settings.
Monitoring	-
Administration	Manage as VRM Class II. Establish Fees for programs and use of facilities. Acquire lands that would facilitate management of the area. Apply special rules to restrict prospecting activities to the least impacting.

SRMA Name: Temblor **RMZ Name:** Temblor Range

RMZ Market Segment (Niche)		
Motorized recreation on designated trails.		
Recreation Management Objective		
Manage to provide opportunities for visitors to engage in a remote isolated recreation experience with opportunities for community residents and visitors who use the area seasonally to engage in sustainable, primarily primitive opportunities and gain appreciation of the natural setting of the Temblor Mountain Range though self-discovery, and OHV touring on designated routes.		
Targeted Opportunities and Outcomes		
Activities	**Experiences**	**Benefits**
OHV Trail Riding Driving for Pleasure Dispersed Camping Hunting/Target Shooting	Developing skills and abilities Testing personal endurance Enjoying risk-taking adventure Savoring the total sensory experience of a natural landscape Escaping everyday responsibilities for awhile	***Personal:*** Greater self-reliance; improved skills for outdoor enjoyment; Closer relationship with the natural world ***Community:*** Providing a place near but outside the community to recreate; removing unwanted use from industrial areas; addressing health and safety concerns ***Economic:*** Improved local economic stability; maintenance of community's distinctive recreation tourism market ***Environmental:*** Increased awareness and protection of natural landscapes; reduced negative human impacts such as litter, vegetative trampling, and unplanned trails

Prescribed Setting Character Conditions					
Physical		**Social**		**Operational**	
Remoteness:	Middle Country	***Contacts:***	Backcountry	***Access:***	Middle Country
Naturalness:	Middle Country	***Group Size:***	Backcountry	***Visitor Services:***	Backcountry
Facilities:	Backcountry	***Evidence of Use:***	Middle Country	***Mgmt. Controls:***	Middle Country

Implementation (Activity) Planning Framework	
Management	Develop high quality trail system, including maintenance of many existing trail and creating additional recreation trails.
Marketing	Encourage strong stewardship ethic among users through dissemination of information via kiosks and brochures. Coordinate management with local communities and user groups. Establish a system of grading trail experience/difficulty.
Monitoring	Encourage local volunteer groups to actively monitor trail network, use, and compliance.
Administration	Acquire public access.

SRMA Name: Temblor **RMZ Name:** Urban Interface

RMZ Market Segment (Niche)
Immediate access for local communities to wild, open, unconfined space.
Recreation Management Objective
Manage this zone to provide opportunities for community residents and visitors who use the area seasonally to engage in sustainable urban access for primarily day-use opportunities and gain appreciation of the natural setting of the San Joaquin Valley though self-discovery and OHV touring on designated routes.

Targeted Opportunities and Outcomes

Activities	Experiences	Benefits
OHV Trail Riding Driving for Pleasure	Developing skills and abilities Testing personal endurance Enjoying risk-taking adventure Savoring the total sensory experience of a natural landscape Escaping everyday responsibilities for awhile	***Personal:*** Greater self-reliance; improved skills for outdoor enjoyment; closer relationship with the natural world ***Community:*** Providing a place near but outside the community to recreate; removing unwanted use from industrial areas; addressing health and safety concerns ***Economic:*** Improved local economic stability; maintenance of community's distinctive recreation tourism market ***Environmental:*** Increased awareness and protection of natural landscapes; reduced negative human impacts such as litter, vegetative trampling, and unplanned trails

Prescribed Setting Character Conditions

Physical		Social		Operational	
Remoteness:	Front Country	***Contacts:***	Middle Country	***Access:***	Middle Country
Naturalness:	Front Country	***Group Size:***	Middle Country	***Visitor Services:***	Middle Country
Facilities:	Middle Country	***Evidence of Use:***	Front Country	***Mgmt. Controls:***	Front Country

Implementation (Activity) Planning Framework

Management	Establish an OHV staging area (parking, loading/unloading ramps), restrooms. Develop high quality trail system, including maintenance of many existing trail and creating additional recreation trails.
Marketing	Encourage strong stewardship ethic among users, through dissemination of information via kiosks and brochures. Coordinate management with local communities and user groups. Establish a system of grading trail experience/difficulty.
Monitoring	Encourage local volunteer groups to actively monitor trail network, use and compliance.
Administration	Acquire public access.

APPENDIX I

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Bakersfield Field Office

RMP Revision

Evaluation of Proposed Areas of Critical Environmental Concern



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APPENDIX I – AREA OF CRITICAL ENVIRONMENTAL CONCERN REPORT
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I.1 INTRODUCTION

Areas of Critical Environmental Concern (ACEC) are areas of BLM-administered lands where special management attention is needed to protect their important and relevant values.

The Federal Land Policy and Management Act (FLPMA) and BLM Manual 1613 require the BLM to give priority to the designation and protection of Areas of Critical Environmental Concern (ACECs) during the land use planning process. The BLM Bakersfield Field Office (FO) is currently revising the 1997 Caliente and sections of 1984 Hollister RMPs. The Bakersfield RMP will provide a single, comprehensive land use plan that will guide management of public land within the Planning Area administered by the Bakersfield FO.

The Planning Area is an eight county region of southern central California (Map I 1-1) and consists of a Decision Area of approximately 400,000 acres of public lands and 1.2 million acres of federal mineral estate administered by the BLM. It does not include lands in the California Costal Monument or the Carrizo Plain National Monument.


San Joaquin River Gorge
Madera County
Chowchilla
41
Madera
Auberry
Fresno County
Clovis
Fresno
Kingsburg
Three Rivers
Hanford
Visalia
Tulare
Inyo County
Lemoore
Porterville
Kings County
Avenal
99
Atwell Island
Alpaugh
Monterey County
Piedras Blancas Light Station
Delano
Tulare County
San Simeon
Paso Robles
46
Lost Hills
Wasco
Kern County
Lake Isabella
178
5
Morro Bay
San Luis Obispo County
Buttonwillow
Bakersfield
Buena Vista Hills / NPR2
Los Osos
San Luis Obispo
58
Tehachapi
Taft
Arvin
Pismo Beach
Carrizo Plain National Monument
Maricopa
Santa Maria
Frazier Park
Santa Barbara County
33
Lompoc
Ventura County
101
Santa Barbara
Santa Paula
Ventura
Simi Valley
Oxnard
San Miguel Island
Santa Cruz Island
Thousand Oaks
Anacapa Island
Santa Rosa Island
Los Angeles
Pacific Ocean
Santa Barbara Island
San Nicolas Island
Location Map
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Miles
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No warranty is made by the Bureau of Land Management as to the accuracy, reliability, or completeness of these data for individual or aggregate use with other data
Legend
Bakersfield Field Office
County Boundary
Land Status
Bureau of Land Management
US Forest Service
National Park Service
Bureau of Reclamation
US Fish and Wildlife Service
Military
Indian Lands
City, County, Regional, Other Federal
State
Private, Unclassified
Planning Area
Bureau of Land Management
Bakersfield Field Office
Map I 1-1

I.1.1 Area of Critical Environmental Concern

To be designated as an ACEC, the area must meet the criteria of relevance and importance (as defined in BLM Manual 1613). Areas meeting the relevance criterion possess significant historic, cultural, or scenic values; fish or wildlife resources, including threatened and endangered species; or natural hazards. To meet the importance criterion, the resource must have substantial significance and value. This generally requires qualities of more than local significance and special worth, consequence, meaning, distinctiveness, or cause for concern, especially compared to any similar resource, or qualities or circumstances that make it fragile, sensitive, rare, irreplaceable, exemplary, unique, endangered, threatened, or vulnerable to adverse change.

Furthermore, these value must require "Special management attention"; which refers to management prescriptions developed during preparation of a Resource Management Plan (RMP) or amendment expressly to protect the important and relevant values on an area from the potential effects of actions permitted by the RMP, including proposed actions deemed to be in conformance with the terms, conditions, and decisions of the RMP (BLM Manual 1613). These are management measures that would not be necessary or prescribed if the critical and important features were not present.

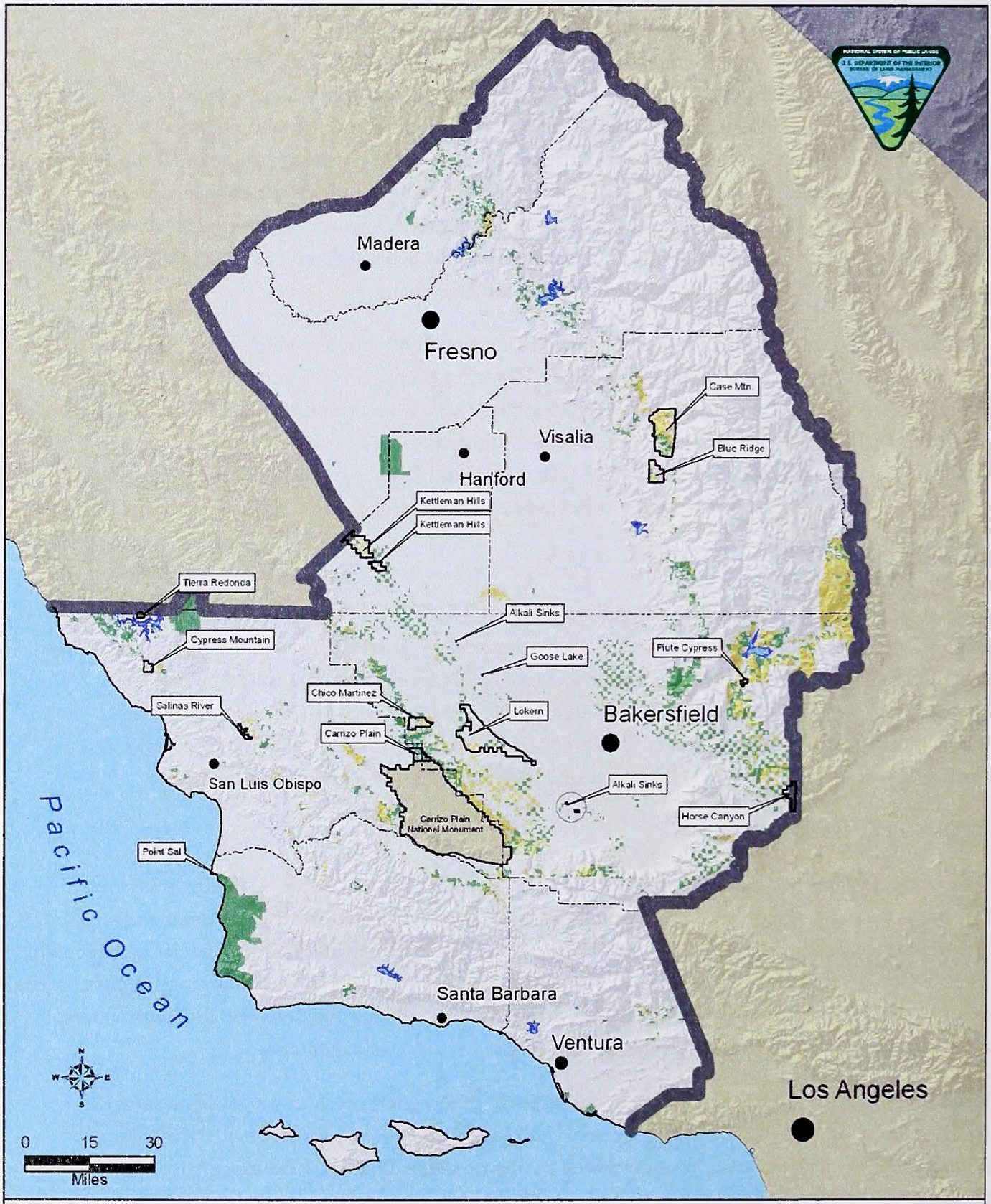
I.1.2 Evaluation Process

Several steps are required to identify and evaluate ACECs. These steps include (1) the nomination of areas by the public during scoping or by BLM resource specialists, (2) evaluation of the nominated areas to determine if they meet the importance and relevance criteria described below, and (3) consideration of the potential ACECs as management scenarios analyzed in the Draft RMP/Draft Environmental Impact Statement (EIS). As part of this evaluation, the BLM also considers whether the existing ACEC designations should be modified or terminated.

Review of Existing ACECs

As part of the land use planning process the existing ACECs are reviewed to address any new information on on-the-ground conditions that may change the need for management as an ACEC (i.e., relevance or importance values no longer present, or no longer a need for special management). The review of existing ACECs combines both field work and review of existing resource inventories concerning the areas to update the ACEC information and ensure the determinations previously made are still valid and address the need for modified special management.

The Decision Area covered by the Bakersfield RMP revision currently contains 13 designated ACECs (Map I 1.2-1) of which this report reviews eight ACECs nominated with their original boundaries. All of these areas were reviewed to ensure determinations previously made by the 1997 Caliente RMP, the information resulting from this review and updated/new determinations are included in this report under the heading Existing ACEC Evaluations. In addition, new acreage figures, including repositioned lands and resulting from GIS calculations have been included to ensure ACEC evaluations are as accurate as possible.



Legend

- Bakersfield Field Office
- County Boundary
- ACECs

Decision Area

- Public Lands
- Federal Mineral Estate

Existing Areas of Critical Environmental Concern
Bureau of Land Management
Bakersfield Field Office

Map I 1.2-1

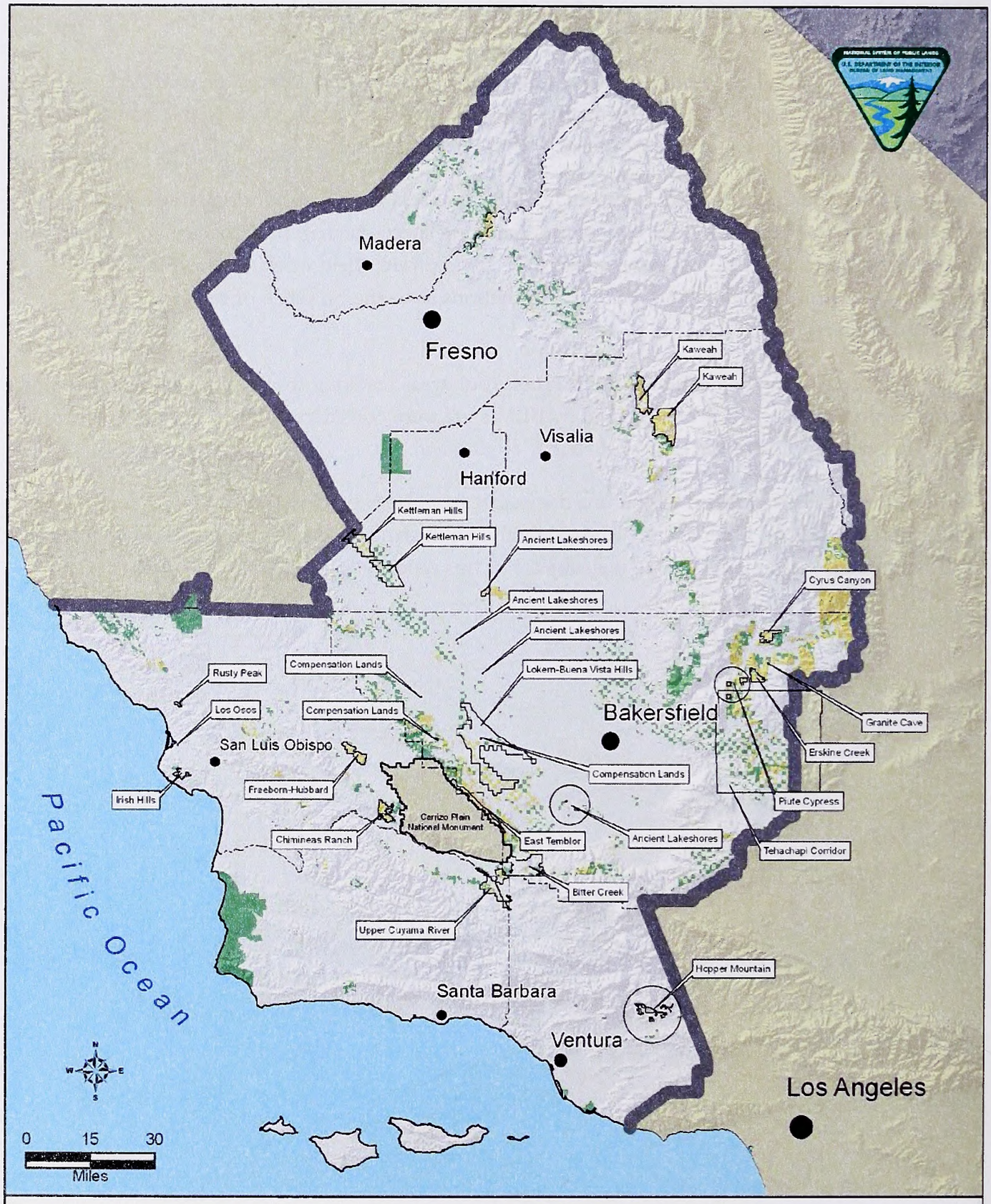
Nomination of Additional ACECs

At anytime, nomination of additional ACECs may occur as a result of internal generation, coordination with other agencies or through public comment and feedback. Designation of new ACECs, however, only occurs as part of the land use planning process.

Nomination of additional ACECs can include both new areas and/or expansions of existing ACECs to encompass importance and relevance values requiring special management occurring outside the existing boundary. These nominations receive the same review (field work, etc.) as the existing ACECs to gather information, and make determinations as to the presence of relevance and importance values.

In conjunction with the Bakersfield RMP revision four areas resulting from public input and 16 new or expanded areas (Map I 1.2-2) identified by BLM staff were considered and reviewed (as described under the heading *Proposed and Expanded ACEC Evaluations*).

Although boundaries identified within this document from both proposed and existing ACECs include non-federal and other agency lands, only the public lands and federal mineral estate managed by BLM within the planning area are the subjects of this report.



Legend

- Bakersfield Field Office
- County Boundary
- ACECs

Decision Area

- Public Lands
- Federal Mineral Estate

New or Expanded Proposed Areas of Critical Environmental Concern Bureau of Land Management Bakersfield Field Office

Map I 1.2-2

I.1.3 IDENTIFICATION OF VALUES

Nominations for ACECs must meet criteria of ***relevance*** and ***importance*** as defined in 43 CFR1610.7-2. This report considers only these criteria, and does not discuss management prescriptions. Relevance and importance are further defined in BLM Manual 1613.1 as follows.

Relevance

Areas meeting the relevance criterion possess "significant historic, cultural, or scenic value; a fish or wildlife resource or other natural system or process; or natural hazard."

An area meets the relevance criterion if it contains *one or more* of the following:

1. A significant historic, cultural, or scenic value (including but not limited to rare or sensitive archeological resources and religious or cultural resources important to Native Americans).
2. A fish and wildlife resource (including but not limited to habitat for endangered, sensitive, or threatened species or habitat essential for maintaining species diversity).
3. A natural process or system (including but not limited to endangered, sensitive, or threatened plant species; rare, endemic, or relic plants or plant communities that are terrestrial, aquatic, or riparian; or rare geological features).
4. Natural hazards (including but not limited to areas of avalanche, dangerous flooding, landslides, unstable soils, seismic activity, or dangerous cliffs). A hazard caused by human action may meet the relevance criteria if it is determined through the resource management planning process that it has become part of a natural process.

Importance

To meet the importance criterion, the value, resource, system, process or hazard resource must "have substantial significance and value." This generally requires qualities of more than local significance and special worth, consequence, meaning, distinctiveness, or cause for concern, especially compared to any similar resource, or qualities or circumstances that make it fragile, sensitive, rare, irreplaceable, exemplary, unique, endangered, threatened, or vulnerable to adverse change. A natural hazard can be important if it is a significant threat to human life or property.

1. An area meets the importance criterion if *one or more* of the following characteristics are present:
2. Has more than locally significant qualities that give it special worth, consequence, meaning, distinctiveness, or cause for concern, especially compared to any similar resource.
3. Has qualities or circumstances that make it fragile, sensitive, rare, irreplaceable, exemplary, unique, endangered, threatened, or vulnerable to adverse change.
4. Has been recognized as warranting protection to satisfy national priority concerns or to carry out the mandates of the Federal Land Policy and Management Act (FLPMA).
5. Has qualities that warrant highlighting to satisfy public or management concerns about safety and public welfare.
6. Poses a significant threat to human life and safety or to property.

The analysis and findings for ACEC relevance and importance criteria was completed in accordance with FLPMA Section 202 (43 US Code 1712[c][3]), 43 Code of Federal Regulations 1610.7-2, and BLM Manual 1613 (BLM 1988a).

I.1.4 Proposal of ACECs

Based on the evaluation of existing, expanded, and new nominations 22 areas met both the relevance and importance criteria. These areas are proposed to be analyzed in at least one alternative of the Draft RMP/Draft EIS to ascertain the need for special management attention and, therefore, recommendation for designation as ACECs. These proposals include seven unmodified existing ACECs, five existing ACECs that were expanded or combined to form five new proposed ACECs, and an additional 10 new ACEC proposals.

Six of the areas nominated as ACECs did not meet the relevance or importance criteria and therefore will not be included in an alternative of the Draft RMP/Draft EIS.

I.1.5 Public Comment on Proposals

The Draft RMP/Draft EIS will contain recommendations proposing potential ACECs for designation. Public comment is requested in conjunction with the formal public comment period for the Draft RMP/Draft EIS on the findings made and proposals originating from this ACEC Report as. Public comments will be reviewed and considered, and adjustments made as necessary before the Proposed RMP/Final EIS is released.

I.1.6 Designation of ACECs

Designation of ACECs is made through the Record of Decision (ROD) approving the RMP. The ROD will specifically list the areas designated as ACECs based on the Proposed RMP and any adjustments required due to resolution of any protests.

I.2 EXISTING ACEC EVALUATIONS

I.2.1 BLUE RIDGE ACEC

General Location: The existing Blue Ridge ACEC is located in central Tulare County, nine miles north of Springville and 12 miles south of Three Rivers, within the foothills of the Sierra Nevada. The area is adjacent to the Sequoia National Forest and Giant Sequoia National Monument and encompasses the Blue Ridge Ecological Reserve and National Wildlife Refuge.

Public Surface Acreage: 3,177 acres
Other Land Owner Acreage: 6,073 acres
Federal Mineral Estate Acreage: 4,758 acres (1,581 acres Split Estate)
Total Existing ACEC Acreage: 9,250 acres

ACEC Description:
The Blue Ridge ACEC includes state, private, and federal land identified principally for its important California condor roosting habitat. The area is a mix of chaparral, oak woodland, and conifer woodland vegetation communities in the Sierra Nevada foothills ranging in elevation from 4,000 to 6,000 feet, in an area entirely underlain by granitic rocks.

The ACEC was designated with the adoption of the South Sierra Foothills Management Framework Plan in August 1984. The ACEC was expanded by the 1997 Caliente Resource Management Plan through the addition of 20 acres of public surface and subsurface to the existing ACEC. Within the ACEC boundary, the U.S. Fish and Wildlife Service (USFWS) manage 897 acres as the Blue Ridge National Wildlife Refuge, and the California Department of Fish and Game manages 596 acres as the Blue Ridge Ecological Reserve. All public land within the ACEC has been designated as the Blue Ridge Critical Condor Habitat Zone by the USFWS. In 1985, an interagency Blue Ridge Habitat Management Plan was completed to guide management for these lands.

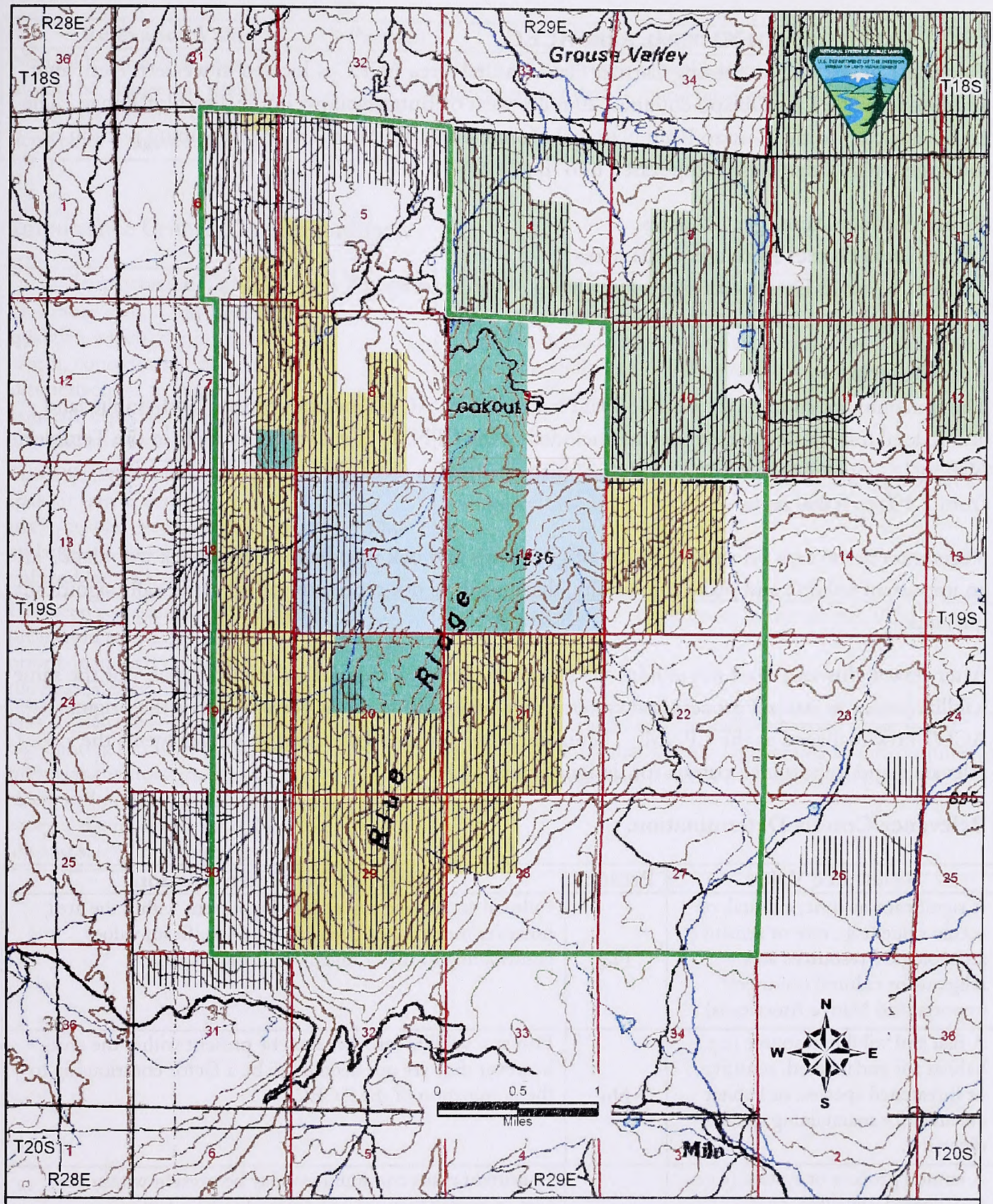
Relevance Criteria Determination:

Relevance Value	Present	Rationale for Determination
A significant historic, cultural, or scenic value (e.g., rare or sensitive archeological resources and religious or cultural resources important to Native Americans).	No	Cultural and scenic values may be present within the area, however they are not deemed to be significant values contributing to the nomination of the ACEC.
A fish and wildlife resource (e.g., habitat for endangered, sensitive, or threatened species; or habitat essential for maintaining species diversity).	Yes	The Blue Ridge area is an important California condor (a species federally listed as endangered) roost location close to nesting and foraging areas. The area was designated as Critical Habitat by the USFWS in 1976, and continues to be important to the recovery of this species.
A natural process or system (e.g., endangered, sensitive, or threatened plant species; rare, endemic, or relic plants or plant	No	Natural process and systems may be present within the area, however they are not deemed to be a factor contributing to the nomination of the ACEC.

Relevance Value	Present	Rationale for Determination
communities; or rare geological features).		
Natural hazards (e.g., areas of avalanche, dangerous flooding, landslides, unstable soils, seismic activity, or dangerous cliffs).	No	There are no known natural hazards in the area that pose a threat greater than is found on all public lands.

Importance Criteria Determination:

Importance Value	Present	Rationale for Determination
Has more than locally significant qualities, which give it special worth, consequence, meaning, distinctiveness, or cause for concern, especially compared to any similar resource.	Yes	The area includes habitat designated critical for the endangered California condor and is identified as part of the Blue Ridge Critical Condor Habitat Zone. Furthermore, the public lands are adjacent to both the National Wildlife Refuge and State Blue Ridge Ecological Reserve.
Has a quality or circumstance that make it fragile, sensitive, rare, irreplaceable, exemplary, unique, endangered, threatened, or vulnerable to adverse change.	Yes	The Blue Ridge ACEC contains approximately 1,200 acres of split estate with privately owned surface limiting the ability to protect important habitat including snags and roost trees. Furthermore, the ACEC encompasses 3,000 acres of private land and mineral estate on which incompatible and detrimental uses could occur.
Has been recognized as warranting protection to satisfy national priority concerns or to carry out the mandates of FLPMA.	Yes	The California condor is a federally listed species and the Blue Ridge area has been designated as Critical Habitat both of which elevate the area as a national priority.
Has a quality that warrants highlighting to satisfy public or management concerns about safety and public welfare (e.g., poses a significant threat to human life and safety or to property).	No	The area contains no known qualities beyond those found on all public lands that warrant highlighting to satisfy either public or management concern over safety and public welfare.



Legend

ACEC Boundary

US Mineral Estate

Land Status

Bureau of Land Management

US Forest Service

US Fish and Wildlife Service

State

Private/Other

Blue Rdge
Area of Critical Environmental Concern
Bureau of Land Management
Bakersfield Field Office

Map I 2.1-1

I.2.2 CARRIZO PLAIN NATURAL AREA ACEC

General Location: The existing Carrizo Plain Natural Area ACEC is located in western Kern and southeastern San Luis Obispo counties, 20 miles west of Buttonwillow, in the Temblor Range. The area is adjacent to the Carrizo Plain National Monument (CPNM) and is the remaining portion of the larger ACEC that was incorporated into the CPNM.

Public Surface Acreage: 122 acres
Other Land Owner Acreage: 6,181 acres
Federal Mineral Estate Acreage: 4,758 acres (4,636 acres Split Estate)
Total Proposed ACEC: 6,303 acres

Area Description:
The remaining portion of the Carrizo Plain Natural Area ACEC includes private land, public land and federal mineral estate that was not included in the CPNM. It is located partially in the Temblor National Cooperative Land and Wildlife Management Area (NCLWMA) with elevations ranging from 2,400 to 4,000 feet.

Vegetation in the area primarily consists of grasslands and oak woodlands. While oak woodlands are an important wildlife and plant community, this area does not represent more than locally significant qualities.

After review this area does not exhibit the significant historic, cultural, or scenic values, nor the same wildlife values or natural process and systems that occur within the larger portion of the original ACEC now managed as the CPNM. Therefore, it is determined this area no longer meets the relevance and importance criteria for designation as an ACEC.

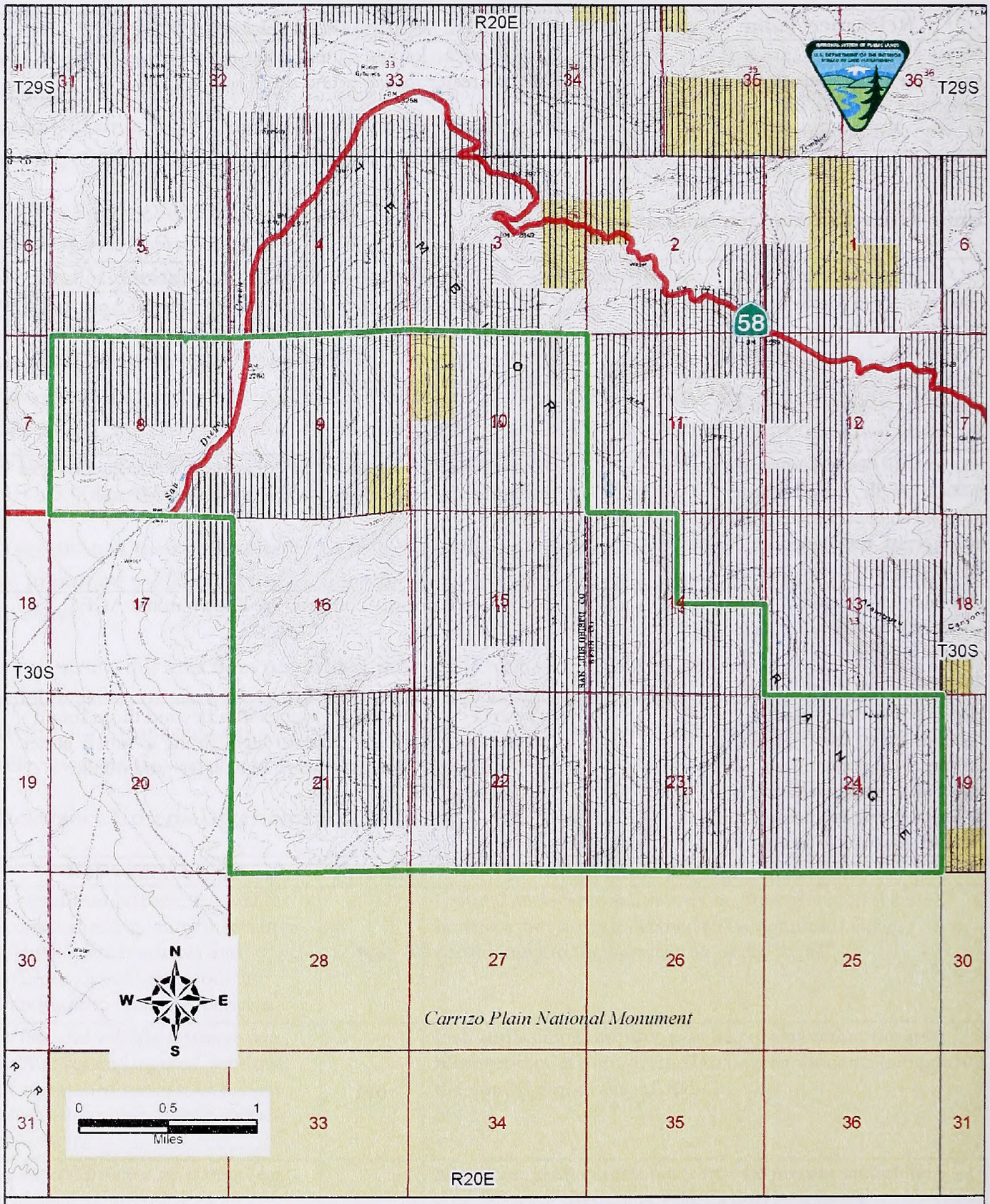
Relevance Criteria Determination:

Relevance Value	Present	Rationale for Determination
A significant historic, cultural, or scenic value (e.g., rare or sensitive archeological resources and religious or cultural resources important to Native Americans).	**No**	Cultural and scenic values may be present within the area, however they are not deemed to be significant values contributing to the nomination of the ACEC.
A fish and wildlife resource (e.g., habitat for endangered, sensitive, or threatened species; or habitat essential for maintaining species diversity).	**No**	Fish and wildlife resource may be present within the area, however they are not deemed to be a factor contributing to the nomination of the ACEC.
A natural process or system (e.g., endangered, sensitive, or threatened plant species; rare, endemic, or relic plants or plant communities; or rare geological features).	**No**	Important plant communities may be present within the area, however they are not deemed to be a factor contributing to the nomination of the ACEC.

Relevance Value	Present	Rationale for Determination
Natural hazards (e.g., areas of avalanche, dangerous flooding, landslides, unstable soils, seismic activity, or dangerous cliffs).	No	There are no known natural hazards in the area that pose a threat greater than is found on all public lands.

Importance Criteria Determination:

Importance Value	Present	Rationale for Determination
Has more than locally significant qualities, which give it special worth, consequence, meaning, distinctiveness, or cause for concern, especially compared to any similar resource.	No	While this portion of the Carrizo Plain Natural Area ACEC contains oak woodlands, which are an important wildlife and plant community, the area does not represent more than locally significant qualities.
Has a quality or circumstance that make it fragile, sensitive, rare, irreplaceable, exemplary, unique, endangered, threatened, or vulnerable to adverse change.	No	There is no known quality or circumstance making this area exemplary, unique, or vulnerable to adverse change.
Has been recognized as warranting protection to satisfy national priority concerns or to carry out the mandates of FLPMA.	No	No national priority concerns are known in the ACEC.
Has a quality that warrants highlighting to satisfy public or management concerns about safety and public welfare (e.g., poses a significant threat to human life and safety or to property).	No	The area contains no known qualities beyond those found on all public lands that warrant highlighting to satisfy either public or management concern over safety and public welfare.


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T30S
58
Carrizo Plain National Monument
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Miles
Legend
ACEC Boundary
US Mineral Estate
Land Status
Bureau of Land Management
Private/Other
Carrizo Plain Natural Area
Area of Critical Environmental Concern
Bureau of Land Management
Bakersfield Field Office

Map I 2.2-1

I.2.3 CHICO MARTINEZ ACEC

General Location: The existing Chico Martinez ACEC is located in Kern County, 22 miles west of the town of Buttonwillow and 15 miles northwest of the town of McKittrick along Chico Martinez and Carneros Creeks.

Public Surface Acreage: 3,234 acres
Other Land Owner Acreage: 3,984 acres
Federal Mineral Estate Acreage: 4,608 acres (1,373 acres Split Estate)
Total Existing ACEC Acreage: 7,217 acres

ACEC Description:
The Chico Martinez ACEC includes private and federal land, identified principally for its important cultural, paleontological and geological resources, in addition to habitat for special status animal and plant species. The area is a mix of vegetation communities in the foothills of the Temblor Range ranging in elevation from 1,200 to 2,000 feet.

The area, riddled with several drainages and numerous springs, played an important role in the regional pre-history of southern San Joaquin Valley and was widely used by Native Americans. Furthermore, rock formations in the area, including natural caves, allowed for temporary settlements as people travelled along the early California trail from San Pedro to East Oakland. The area also exhibits historic agricultural improvements in the form of rock corrals.

The area is the type location (primary example of a specific formation to which others are compared) for the Zemorrian Stage paleontological deposits and for a number of other members of geologic formations, including the following: within the Monterey Shale, the Gould Shale member and the reference section of the McLure Shale member; within the Temblor Formation the Button bed member, the Carneros Sandstone member and the Phacoides sand member.

In addition to the numerous cultural, paleontological, and geological resources of the area, the USFWS and CDFG identified the area as important for the recovery of federally listed species in the *Kern County Valley Floor HCP* that established the area as a corridor (green zone) to connect listed species habitat in western Kern County.

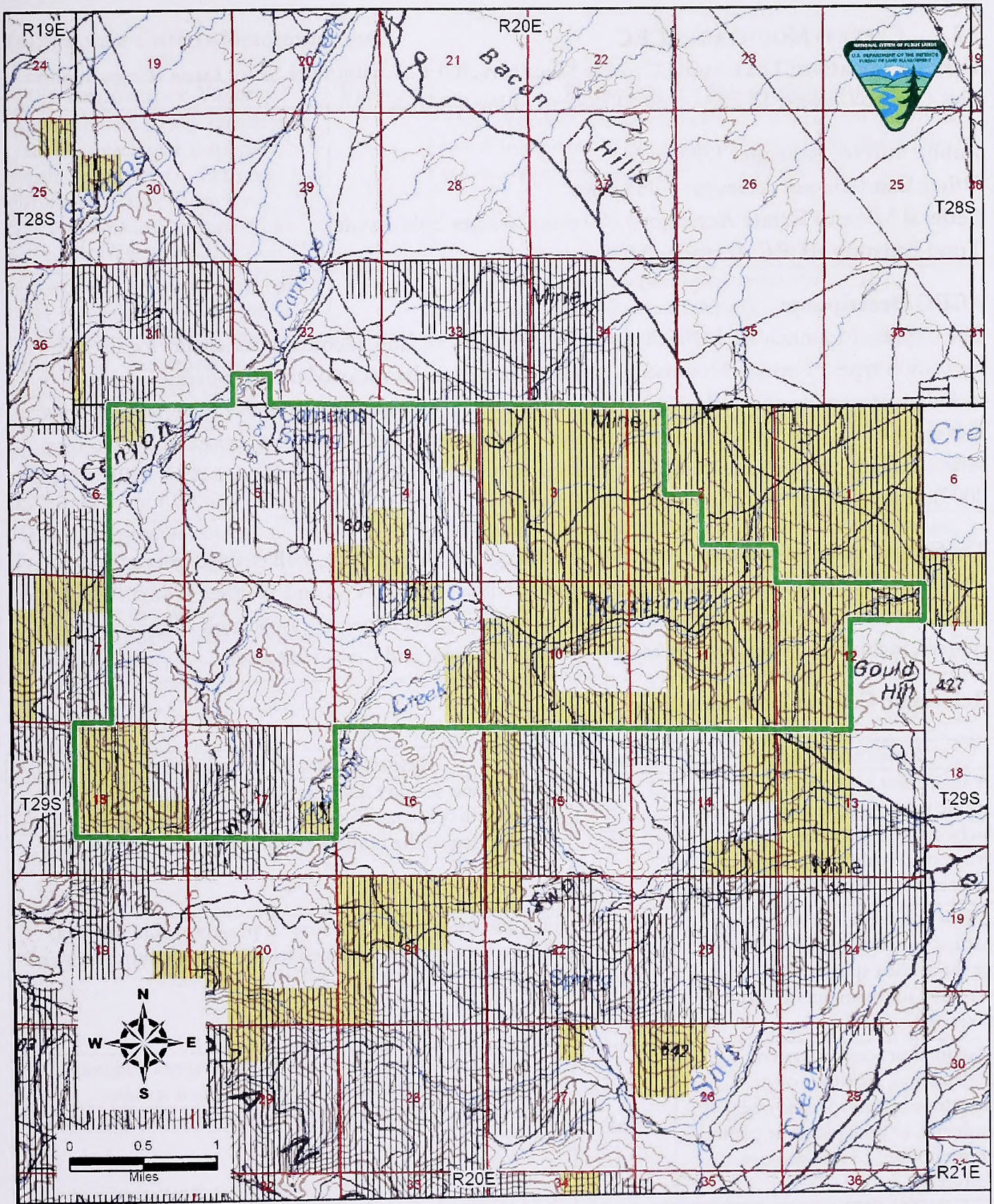
Relevance Criteria Determination:

Relevance Value	Present	Rationale for Determination
A significant historic, cultural, or scenic value (e.g., rare or sensitive archeological resources and religious or cultural resources important to Native Americans).	Yes	The Chico Martinez area contains evidence of prehistoric and historic uses including temporary settlements, rock shelters, and early agricultural improvements. Some of the best examples of which are located on private property within the ACEC boundary.
A fish and wildlife resource (e.g., habitat for endangered, sensitive, or threatened species; or habitat essential for maintaining species diversity).	Yes	The lower slopes and less rugged terrain of the area provides habitat for the federally endangered blunt nosed-leopard lizard and San Joaquin kit fox and State listed San Joaquin antelope squirrel. Furthermore, the rock formations provide nesting habitat for prairie falcon and other raptors.

Relevance Value	Present	Rationale for Determination
A natural process or system (e.g., endangered, sensitive, or threatened plant species; rare, endemic, or relic plants or plant communities; or rare geological features).	Yes	The area is the paleontological type location for the Zemorrian Stage and geologic type location for a number of formations. Furthermore, two BLM California sensitive plant species: *Eriogonum temblorense* (Temblor buckwheat) and *Layia heterotricha* (pale-yellow layia), have been recorded in Chico Martinez canyon.
Natural hazards (e.g., areas of avalanche, dangerous flooding, landslides, unstable soils, seismic activity, or dangerous cliffs).	No	There are no known natural hazards in the area that pose a threat greater than is found on all public lands.

Importance Criteria Determination:

Importance Value	Present	Rationale for Determination
Has more than locally significant qualities, which give it special worth, consequence, meaning, distinctiveness, or cause for concern, especially compared to any similar resource.	Yes	The ACEC contains important examples of regional prehistory in relatively undisturbed condition. In addition, the ACEC represents an important part of a regional conservation strategy for federally listed species.
Has a quality or circumstance that make it fragile, sensitive, rare, irreplaceable, exemplary, unique, endangered, threatened, or vulnerable to adverse change.	Yes	Cultural resources found within the ACEC are both fragile and irreplaceable examples of the prehistory of California. Furthermore, the area represents type locations for significant paleontological and geological resources.
Has been recognized as warranting protection to satisfy national priority concerns or to carry out the mandates of FLPMA.	Yes	Cultural resources within the area are likely eligible for the National Register of Historic Places. In addition, the ACEC comprises important habitats for federally listed species.
Has a quality that warrants highlighting to satisfy public or management concerns about safety and public welfare (e.g., poses a significant threat to human life and safety or to property).	No	The area contains no known qualities beyond those found on all public lands that warrant highlighting to satisfy either public or management concern over safety and public welfare.



Legend

ACEC Boundary

US Mineral Estate

Land Status

Bureau of Land Management

Private/Other

Chico Martinez
Area of Critical Environmental Concern
Bureau of Land Management
Bakersfield Field Office

Map I 2.3-1

I.2.4 CYPRESS MOUNTAIN ACEC

General Location: The existing Cypress Mountain ACEC is within the Santa Lucia Range in San Luis Obispo County, 15 miles west of the city of Paso Robles.

Public Surface Acreage: 1,080 acres
Other Land Owner Acreage: 1,955 acres
Federal Mineral Estate Acreage: 1,080 acres (0 acres Split Estate)
Total Existing ACEC Acreage: 3,035 acres

ACEC Description:

The Cypress Mountain ACEC includes private and federal land, identified principally for its rare vegetation types. Cypress Mountain is primarily underlain by rocks of the Franciscan Complex, including serpentine and shale. In an area of the ACEC, this geology gives rise to serpentine soils that support endemic vegetation communities and species. In addition, the area exhibits two rare series: Sargent cypress series and Whiteleaf manzanita series (Sawyer and Keeler-Wolf 1995, CNPS 2009). Elevations range from 1,500 to 2,923 feet.

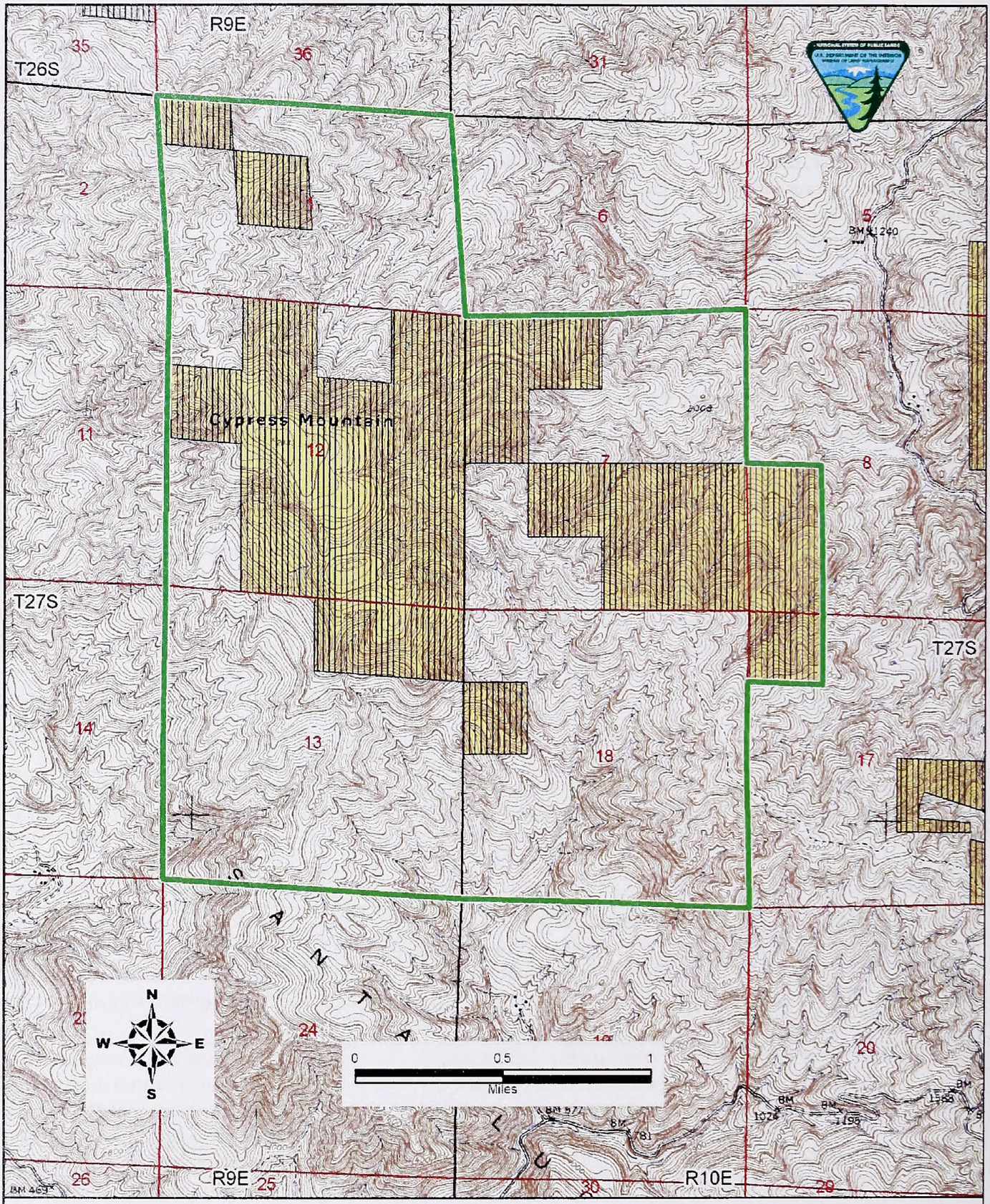
The Sargent cypress (*Callitropsis [cupressus] sargentii*) grows in extensive, well defined groves (Hoover, 1970) that represent some of the best examples on public land (Wolf and Wagner 1948). Additional rare plants that may be present include a group of serpentine endemics associated with Sargent cypress, including *Arctostaphylos pilosula*, *Calochortus simulans*, and *Carex obispoensis.*

Relevance Criteria Determination:

Relevance Value	Present	Rationale for Determination
A significant historic, cultural, or scenic value (e.g., rare or sensitive archeological resources and religious or cultural resources important to Native Americans).	**No**	Cultural and scenic values may be present within the area, however they are not deemed to be significant values contributing to the nomination of the ACEC.
A fish and wildlife resource (e.g., habitat for endangered, sensitive, or threatened species; or habitat essential for maintaining species diversity).	**No**	Fish and wildlife resource may be present within the area, however they are not deemed to be a factor contributing to the nomination of the ACEC.
A natural process or system (e.g., endangered, sensitive, or threatened plant species; rare, endemic, or relic plants or plant communities; or rare geological features).	**Yes**	The ACEC contains two rare vegetation series and may contain a number of rare and endemic plant species dependent on the serpentine soils present within the area.
Natural hazards (e.g., areas of avalanche, dangerous flooding, landslides, unstable soils, seismic activity, or dangerous cliffs).	**No**	There are no known natural hazards in the area that pose a threat greater than is found on all public lands.

Importance Criteria Determination:

Importance Value	Present	Rationale for Determination
Has more than locally significant qualities, which give it special worth, consequence, meaning, distinctiveness, or cause for concern, especially compared to any similar resource.	**Yes**	The Cypress Mountain population is considered one of the two finest groves of Sargent cypress and is the best under public ownership, with trees up to 90 feet tall.
Has a quality or circumstance that make it fragile, sensitive, rare, irreplaceable, exemplary, unique, endangered, threatened, or vulnerable to adverse change.	**Yes**	The rare vegetation series found within the ACEC is somewhat unique due to its dependency on serpentine soils and therefore limited in extent.
Has been recognized as warranting protection to satisfy national priority concerns or to carry out the mandates of FLPMA.	**No**	No national priority concerns are known in the ACEC.
Has a quality that warrants highlighting to satisfy public or management concerns about safety and public welfare (e.g., poses a significant threat to human life and safety or to property).	**No**	The area contains no known qualities beyond those found on all public lands that warrant highlighting to satisfy either public or management concern over safety and public welfare.



Legend

ACEC Boundary

US Mineral Estate

Land Status

Bureau of Land Management

Private/Other

Cypress Mountain
Area of Critical Environmental Concern
Bureau of Land Management
Bakersfield Field Office

Map I 2.4-1

I.2.5 HORSE CANYON ACEC

General Location: The existing Horse Canyon ACEC is located in Kern County at the southern tip of the Sierra Nevada Range approximately seven miles northeast of Tehachapi Pass and the city of Tehachapi.

Public Surface Acreage: 1,491 acres
Other Land Owner Acreage: 5,406 acres
Federal Mineral Estate Acreage: 2,830 acres (1,339 acres Split Estate)
Total Existing ACEC Acreage: 6,897 acres

ACEC Description:
The Horse Canyon ACEC includes private and federal land and mineral estate, identified principally for its important cultural and paleontological resources. In addition, the area contains a number of BLM sensitive plant species. The area is a mix of pinyon pine-juniper woodland and desert scrub vegetation communities in the southern Sierra Nevada Range, ranging in elevation from 4,400 to 5,700 feet.

The Horse Canyon area appears to be a transition zone between the Mojave Desert and the San Joaquin Valley cultural regions. The ACEC lies somewhat at an interface between several Native American groups and may likely yield important information about trade, resource procurement, and prehistoric lifeways. The area was primarily occupied by the Kawaiisu, a tribe centrally focused in the Walker Basin, Kelso Canyon, Sand Canyon, and Loraine areas. The Tubatulabal occupied the Kern Valley immediately north of the Kawaiisu. The Panamint and Chemehuevi occupied desert areas to the northeast and east respectively, the Kitanemuk group lived in the El Tejon area and the Yokuts were centrally located to the west in the San Joaquin Valley. As such food processing features, rock art, agate quarries, lithic flake and tool scatters, rock ring habitation features, and sites of aboriginal and historic trails are represented in the ACEC.

Of the paleontological resource values known within and adjacent to the area the unique presence of the Phillips Ranch vertebrate locality provides high research potential to yield significant information on vertebrate fossils and the history of geologic/fault activity in the region. This locality of the Kinnick Formation has resulted in discoveries of fossilized mammalian faunas (small horses, camels, and antelope-like forms) ranging in age from early middle Miocene to late Miocene. In addition, from about the same stratigraphic level of Phillips Ranch fauna locality, floras have been found that consists of sixty-nine trees and shrubs assigned to the early Miocene (Savage, 1954). Furthermore, portions of the Bopesta Formation contain Cache Peak vertebrate fossils (late Miocene) from the locality found on the east fork of Cache Creek, adjacent to the ACEC east boundary. As the Bopesta formation extends across the area, the potential for fossil bearing horizons exists within the ACEC.

In addition to cultural and paleontological resources, seven BLM sensitive plants have been documented to occur in the area: *Allium shevockii*, *Calochortus palmeri* var. *palmeri*, *Eriogonum kennedyi* var. *pinicola*, *Layia heterotricha*, *Mimulus pictus*, *Orthotrichum spjutii*, and *Streptanthus cordatus* var. *piutensis*.

A number of activities in the area threaten the values present within the ACEC. These include residential development, exploitation of wind energy resources, and the presence of valuable solid minerals, most notably the Horse Canyon agate field. These mineral deposits have in addition to agate yielded chalcedony, opal, chert, jasper, and petrified wood. Furthermore, the area was actively mined from the early 1950s until the early 1960s for a variety of volcanic and sedimentary rocks for roofing granules. Casual collection of mineral specimens has unfortunately resulted in degradation of cultural resources and values and the unauthorized collection of vertebrate fossils.

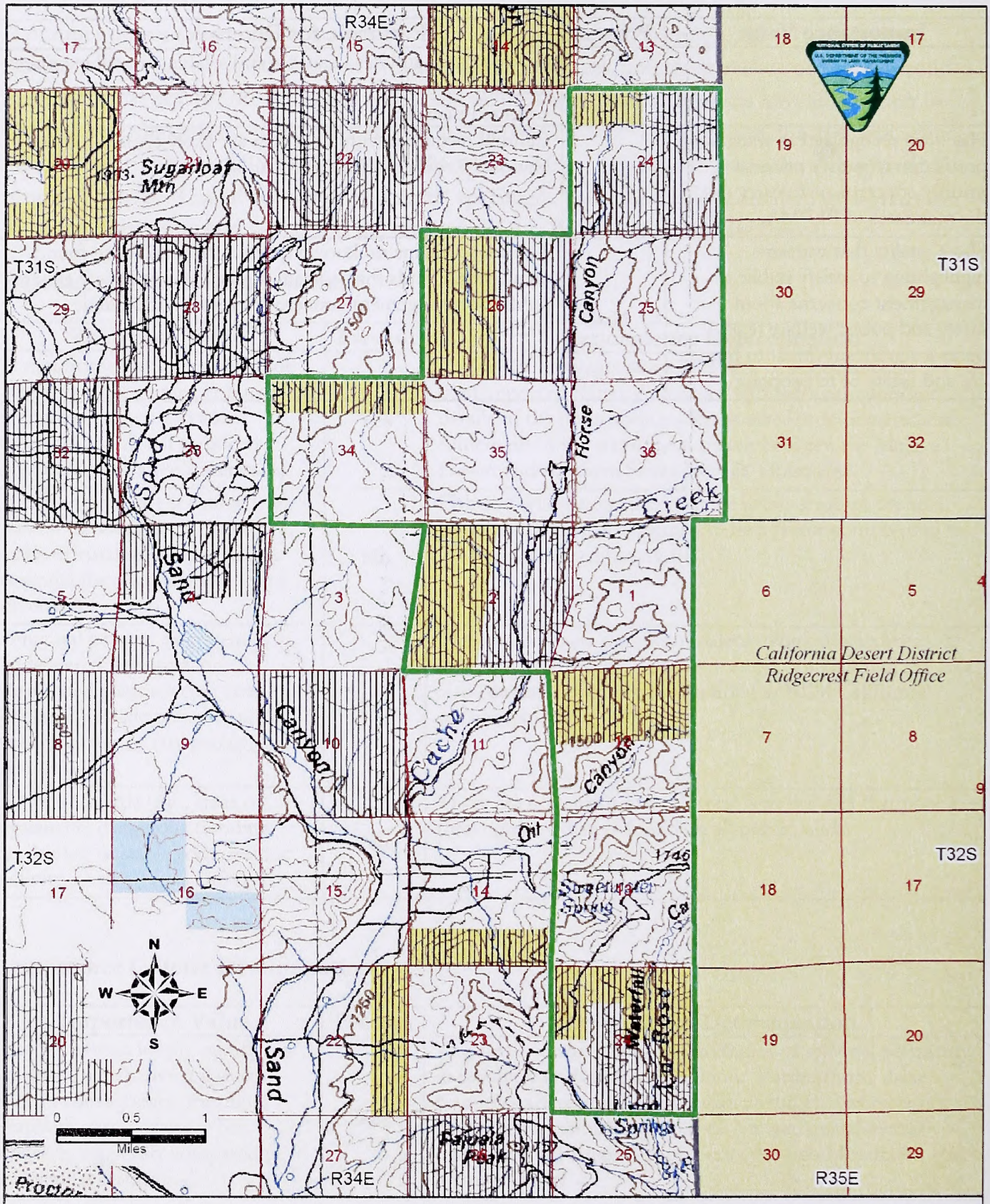
Relevance Criteria Determination:

Relevance Value	Present	Rationale for Determination
A significant historic, cultural, or scenic value (e.g., rare or sensitive archeological resources and religious or cultural resources important to Native Americans).	**Yes**	The ACEC contains numerous sites of importance to contemporary Native Americans and harbors significant details of the prehistoric trade, resource procurement, and settlement of the transitional region between the Mojave Desert and southern Sierra Nevada Mountains.
A fish and wildlife resource (e.g., habitat for endangered, sensitive, or threatened species; or habitat essential for maintaining species diversity).	**No**	Fish and wildlife resource may be present within the area, however they are not deemed to be a factor contributing to the nomination of the ACEC.
A natural process or system (e.g., endangered, sensitive, or threatened plant species; rare, endemic, or relic plants or plant communities; or rare geological features).	**Yes**	The area contains significant paleontological resources including mammalian vertebrate fauna. In addition, the area also contains seven plants identified as BLM California sensitive species.
Natural hazards (e.g., areas of avalanche, dangerous flooding, landslides, unstable soils, seismic activity, or dangerous cliffs).	**No**	There are no known natural hazards in the area that pose a threat greater than is found on all public lands.

Importance Criteria Determination:

Importance Value	Present	Rationale for Determination
Has more than locally significant qualities, which give it special worth, consequence, meaning, distinctiveness, or cause for concern, especially compared to any similar resource.	**Yes**	The area contains important examples of regional prehistory in relatively undisturbed condition. Furthermore, these resources are regionally significant as the area represents a convergence point for numerous Native American tribes from the San Joaquin Valley, Sierra Nevada Mountains, and Mojave Desert.
Has a quality or circumstance that make it fragile, sensitive, rare, irreplaceable, exemplary, unique, endangered, threatened, or vulnerable to adverse change.	**Yes**	Cultural resources found within the ACEC are both fragile and irreplaceable examples of the prehistory of California. Furthermore, the area contains significant paleontological resources. These resources are vulnerable to adverse impacts as the area is noted for its wind energy development potential, had previously been subdivided for residential

Importance Value	Present	Rationale for Determination
		development, and has locatable and salable mineral resources that have historically been extracted and are currently collected casually.
Has been recognized as warranting protection to satisfy national priority concerns or to carry out the mandates of FLPMA.	**Yes**	Cultural resources within the area are likely eligible for the National Register of Historic Places.
Has a quality that warrants highlighting to satisfy public or management concerns about safety and public welfare (e.g., poses a significant threat to human life and safety or to property).	**No**	The area contains no known qualities beyond those found on all public lands that warrant highlighting to satisfy either public or management concern over safety and public welfare.



Legend

ACEC Boundary

US Mineral Estate

Land Status

Bureau of Land Management

State

Private/Other

Horse Canyon
Area of Critical Environmental Concern
Bureau of Land Management
Bakersfield Field Office

Map I 2.5-1

I.2.6 POINT SAL ACEC

General Location: The existing Point Sal ACEC is located in northern Santa Barbara County, about 13 miles southwest of Santa Maria, on the shoreline. The area is within the south end of the Nipomo Dunes-Point Sal National Natural Landmark and is bounded by state land to the south, county land to the east and north, and the Pacific Ocean to the west.

Public Surface Acreage: 77 acres
Other Land Owner Acreage: 0 acres
Federal Mineral Estate Acreage: 76 acres (0 acres Split Estate)
Total Existing ACEC Acreage: 77 acres

ACEC Description:
The Point Sal ACEC consists entirely of public land and federal mineral estate identified principally for its important cultural resources, unique and diverse plant communities and wildlife habitat. The area is a sand dune rocky promontory, located on the western terminus of the east-west trending Point Sal Ridge.

On November 11, 2002 Point Sal Ataje archaeological district was placed on the National Register of Historic Places. It includes 31 archaeological sites located on public lands within the Point Sal ACEC; the high frequency of which implies that the entire Point Sal area served as an important use area for the procurement of various marine and terrestrial resources. The sites range in size and use from what appears to be large residential bases, to various sized seasonal camps occupied for relatively limited periods and purposes, to small day use areas. They are representative of successive Native American uses of the area ranging from 4800 to 250 years before present. These sites are unique and are among the premiere cultural resources along the southern coast region of California.

The Point Sal region possesses a number of unique biological attributes. It is a transition zone where plant species most common to the north are sympatric with species more common to the south, forming unique plant species assemblages and contains a number of rare plants. One Federal and State endangered species, *Deinandra increscens* subsp. *villosa*, is present, but not currently known to occur on public land within the ACEC. CNPS list 1B species present include *Arctostaphylos pechoensis*, *Arctostaphylos purissima*, *Arctostaphylos rudis*, *Arctostaphylos tomentosa* subsp. *eastwoodiana*, *Lasthenia glabrata* subsp. *coulteri*, *Monardella crispa*, *Scrophularia atrata*, and *Dudleya blochmaniae* subsp. *blochmaniae*, which has been collected on the ACEC. In addition, 10 CNPS list 4 plants are also known from the area, with *Cirsium rhothophilum*, *Erigeron blochmaniae*, and *Monardella fructescens* recorded on the ACEC.

These unique and diverse plant communities, in association with topographic features, provide a variety of undisturbed wildlife habitat comprised of marine, intertidal, subtidal, and terrestrial areas. Researchers (Glassow 1981) have pointed out that at Point Sal, the underlying bedrock shelves extend into the intertidal zone, which provides an ideal habitat for shellfish and other intertidal life forms preferring rocky beaches.

Several State and Federal sensitive and rare, threatened, and endangered wildlife species use the area. Such species include the California brown pelican (Proposed Recovered/CE), American peregrine falcon (Recovered/CE), and California least tern (FE/CE). In addition, a variety of marine and terrestrial wildlife species inhabit the area.

This ACEC lies within the Santa Maria Basin which is considered to have high potential for the occurrence of oil and gas. The potential for economic quantities of locatable minerals is considered to be low.

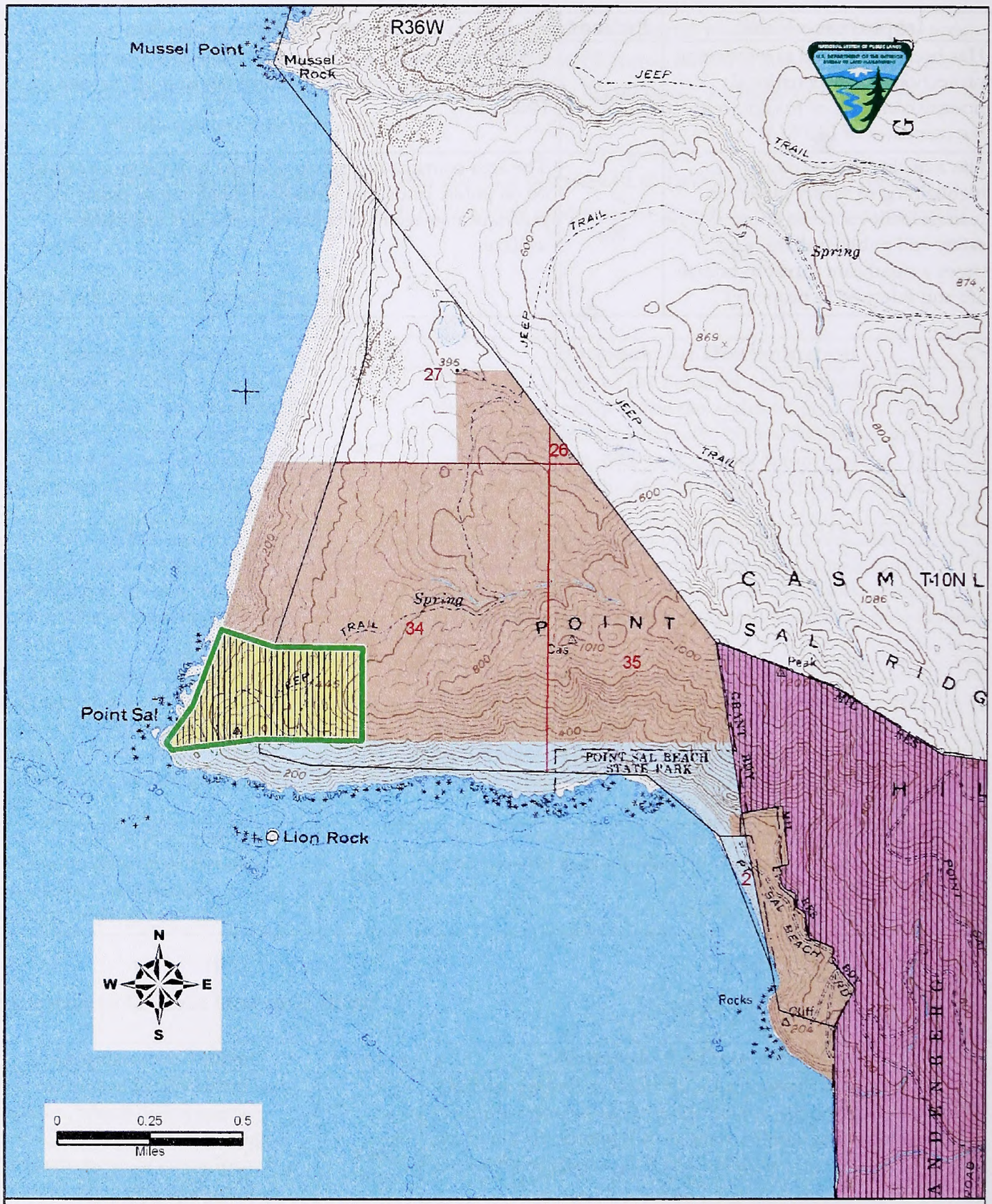
Relevance Criteria Determination:

Relevance Value	Present	Rationale for Determination
A significant historic, cultural, or scenic value (e.g., rare or sensitive archeological resources and religious or cultural resources important to Native Americans).	**Yes**	The ACEC is part of the Point Sal Ataje archaeological district and contains numerous archaeological sites that are unique and represent successive Native American uses of the area ranging from 4800 to 250 years before present. The heritage values of the area are important to local Native Americans.
A fish and wildlife resource (e.g., habitat for endangered, sensitive, or threatened species; or habitat essential for maintaining species diversity).	**Yes**	The ACEC provides a variety of undisturbed wildlife habitats comprised of marine, intertidal, subtidal, and terrestrial areas. Several state and federally listed sensitive and rare, threatened, and endangered wildlife species use the area.
A natural process or system (e.g., endangered, sensitive, or threatened plant species; rare, endemic, or relic plants or plant communities; or rare geological features).	**Yes**	The area is a transition zone where plant species most common to the north are sympatric with species more common to the south, forming unique plant species assemblages. The Point Sal region contains a number of rare plants.
Natural hazards (e.g., areas of avalanche, dangerous flooding, landslides, unstable soils, seismic activity, or dangerous cliffs).	**No**	There are no known natural hazards in the area that pose a threat greater than is found on all public lands.

Importance Criteria Determination:

Importance Value	Present	Rationale for Determination
Has more than locally significant qualities, which give it special worth, consequence, meaning, distinctiveness, or cause for concern, especially compared to any similar resource.	**Yes**	The sites present at Point Sal are important to regional scientific research and provide unique opportunities for study and are among the premiere cultural resources along the southern coast region of California.
Has a quality or circumstance that make it fragile, sensitive, rare, irreplaceable, exemplary, unique, endangered, threatened, or vulnerable to adverse change.	**Yes**	Cultural resources found within the ACEC are both fragile and irreplaceable examples of the prehistory of California. They are relatively intact cultural remains considered to be very unique along the highly developed and industrialized California coast.

Importance Value	Present	Rationale for Determination
Has been recognized as warranting protection to satisfy national priority concerns or to carry out the mandates of FLPMA.	**Yes**	On November 11, 2002 Point Sal Ataje archaeological district was placed on the National Register of Historic Places.
Has a quality that warrants highlighting to satisfy public or management concerns about safety and public welfare (e.g., poses a significant threat to human life and safety or to property).	**No**	The area contains no known qualities beyond those found on all public lands that warrant highlighting to satisfy either public or management concern over safety and public welfare.



Legend

- ACEC Boundary
- US Mineral Estate

Land Status

- Bureau of Land Management
- Military
- Other Federal, Local Govn't
- State
- Private/Other

Point Sal
Area of Critical Environmental Concern
Bureau of Land Management
Bakersfield Field Office

Map I 2.6-1

I.2.7 SALINAS RIVER ACEC

General Location: The Salinas River ACEC is located in San Luis Obispo County approximately two miles east southeast of Santa Margarita, and lies between the La Panza and Santa Lucia Mountain Ranges.

Public Surface Acreage: 946 acres
Other Land Owner Acreage: 1,438 acres
Federal Mineral Estate Acreage: 1,604 acres (658 acres Split Estate)
Total Existing ACEC Acreage: 2,383 acres

ACEC Description:
The Salinas River ACEC includes federal and private land identified principally for its excellent examples of several rare riparian communities such as the central coast live oak riparian forest, central coast arroyo willow riparian forest, sycamore alluvial woodland, and central coast riparian scrub (Holland 1986). This segment of the Salinas River ranges in elevation from 980 to 1,750 feet.

The riparian zone along the river harbors a wide diversity of plants and animals, many of which are not found elsewhere on public lands in the Bakersfield FO. Two plants which are CNPS List 1B species occur within the ACEC, *Camissonia hardhamiae* (Hardham's evening-primrose) and *Chorizanthe rectispina* (straight-awned spineflower). Additional BLM California sensitive plants, known from the vicinity of the Salinas River ACEC and which may be present on public lands include *Calochortus obispoensis*, *Calochortus simulans*, *Carex obispoensis*, *Castilleja densiflora* ssp. *obispoensis*, *Chlorogalum pomeridianum* var. *minus*, *Chorizanthe breweri*, *Eriastrum leuteum*, *Fritilaria viridea*, *Layia heterotricha*, and *Monardella palmeri*. Additionally, this riparian system, with its nearly perennial water flow, supports habitat for and is within the range of several sensitive species of animals. Critical habitat for the South Central California Coast Steelhead Evolutionary Significant Unit (ESU) occurs within the ACEC on private land. Western pond turtle, a BLM California sensitive species occurs in this ACEC. The Salinas River within the ACEC provides important migratory and nesting habitat for Neotropical Migrating Birds, an assemblage of species which has experienced a drastic population decline in recent years.

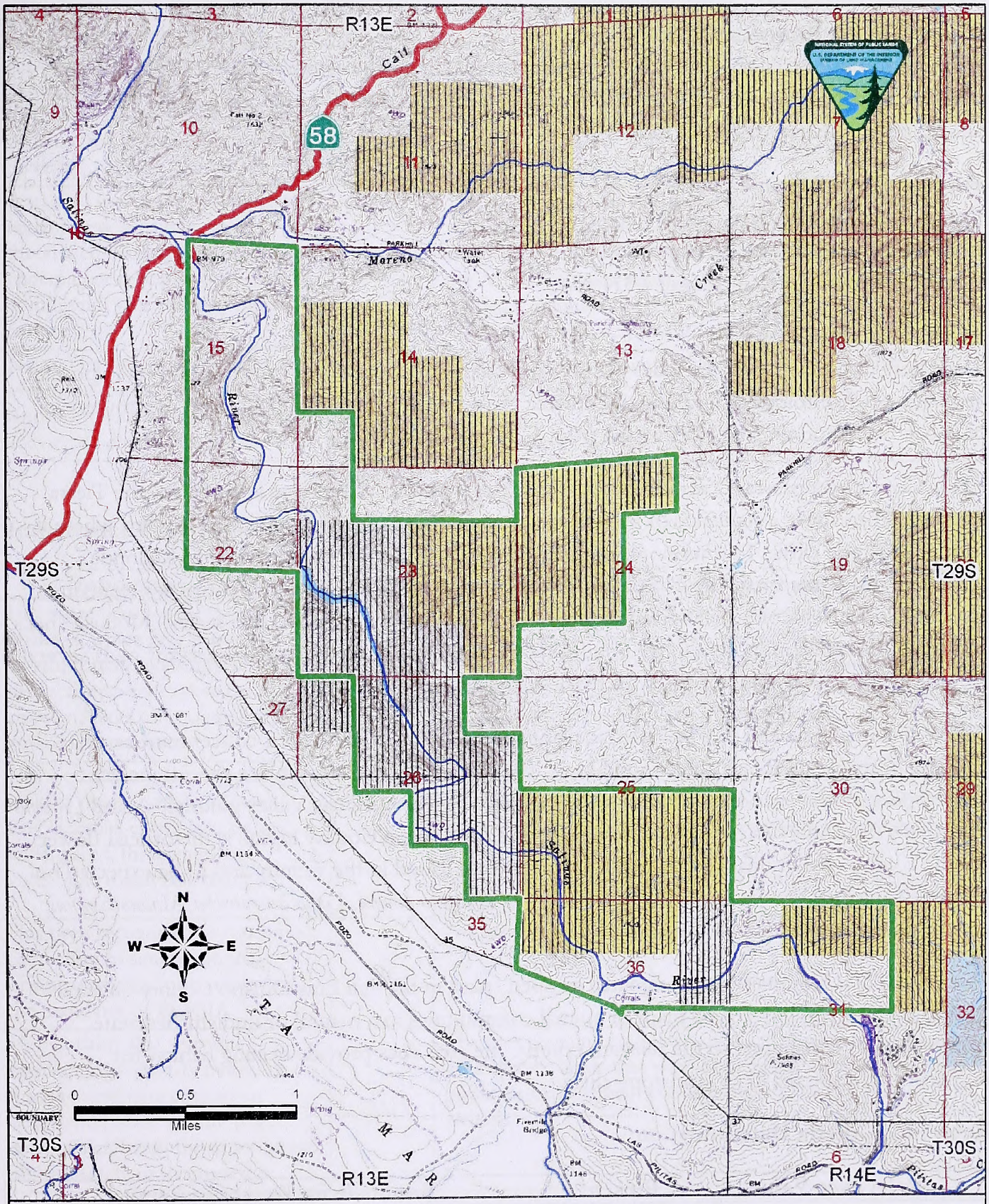
Relevance Criteria Determination:

Relevance Value	Present	Rationale for Determination
A significant historic, cultural, or scenic value (e.g., rare or sensitive archeological resources and religious or cultural resources important to Native Americans).	**No**	Cultural and scenic values may be present within the area, however they are not deemed to be significant values contributing to the nomination of the ACEC.
A fish and wildlife resource (e.g., habitat for endangered, sensitive, or threatened species; or habitat essential for maintaining species diversity).	**Yes**	Within the ACEC the Salinas River has been designated as Critical Habitat for the South Central California Coast Steelhead ESU on private land. The BLM sensitive western pond turtle and important migratory and nesting habitat for Neotropical Migrating Birds also occurs in the ACEC.

Relevance Value	Present	Rationale for Determination
A natural process or system (e.g., endangered, sensitive, or threatened plant species; rare, endemic, or relic plants or plant communities; or rare geological features).	Yes	The area contains a number of rare riparian plant communities and numerous species identified as important by the California Native Plant Society.
Natural hazards (e.g., areas of avalanche, dangerous flooding, landslides, unstable soils, seismic activity, or dangerous cliffs).	No	There are no known natural hazards in the area that pose a threat greater than is found on all public lands.

Importance Criteria Determination:

Importance Value	Present	Rationale for Determination
Has more than locally significant qualities, which give it special worth, consequence, meaning, distinctiveness, or cause for concern, especially compared to any similar resource.	Yes	The Salinas River itself, including the portion within the ACEC, is listed as impaired under the CWA 303(d) List by the State of California.
Has a quality or circumstance that make it fragile, sensitive, rare, irreplaceable, exemplary, unique, endangered, threatened, or vulnerable to adverse change.	Yes	The riparian zone within the ACEC harbors a wide diversity of plants and animals, many of which are not found elsewhere on public lands in the Bakersfield FO and some of which are considered rare or sensitive species.
Has been recognized as warranting protection to satisfy national priority concerns or to carry out the mandates of FLPMA.	Yes	The Salinas River, including the portion within the ACEC, has been identified as Critical Habitat for the federally listed as threatened South Central California Coast Steelhead ESU.
Has a quality that warrants highlighting to satisfy public or management concerns about safety and public welfare (e.g., poses a significant threat to human life and safety or to property).	No	The area contains no known qualities beyond those found on all public lands that warrant highlighting to satisfy either public or management concern over safety and public welfare.



Legend

ACEC Boundary

US Mineral Estate

Land Status

Bureau of Land Management

State

Private/Other

Salinas River
Area of Critical Environmental Concern
Bureau of Land Management
Bakersfield Field Office

Map I 2.7-1

I.2.8 TIERRA REDONDA ACEC

General Location: Tierra Redonda Mountain, situated in northwestern San Luis Obispo County between Lake Nacimiento and Lake San Antonio, is located about 20 miles east of the Pacific Ocean and 20 miles northwest of Paso Robles.

Public Surface Acreage: 331 acres
Other Land Owner Acreage: 980 acres
Federal Mineral Estate Acreage: 412 acres (81 acres Split Estate)
Total Existing ACEC Acreage: 1,311 acres

ACEC Description:
The Tierra Redonda ACEC includes private and federal land identified principally for its important geological, paleontological, and rare or endemic plant species. The dominant plant community is blue-oak woodland ranging in elevation from 1,200 to 2,050 feet.

The ACEC encompassing Tierra Redonda Mountain is known as the type location for the Tierra Redonda Formation, a sequence of marine sedimentary rocks. This is its thickest locality, where it forms sandstone cliffs. Furthermore, within the ACEC on the south side of Tierra Redonda Mountain the highly fossiliferous Vaqueros Formation occurs. In places this formation contains fossil mollusks, echinoids, sand-filled worm tubes, foraminifers, bone and fish scales. Mollusk shells and fragments are common. On the south side of Tierra Redonda Mountain are sandy beds several feet thick, composed almost entirely of fossil turritellas.

The area contains several rare or endemic plant species. One of the largest concentrations of *Chorizanthe* species in the world is found here. BLM California sensitive plant species include *Chorizanthe rectispina* (one-awned spineflower), *Lasthenia leptalea* (Salinas Valley goldfields), and *Lupinus ludovicianus* (San Luis Obispo County lupine). San Luis Obispo County lupine is the official flower for the county. Additional CNPS List 1B plant species found in the vicinity and to be expected on the ACEC include *Caulanthus coulteri* var. *lemmonii*, *Eriastrum luteum*, *Layia heterotricha*, *Malacothamnus abbottii*, and *Malacothamnus davidsonii*.

Tierra Redonda Mountain was designated as open space in the San Luis Obispo County General Plan to retain areas with fragile plant or animal communities in a natural or undisturbed state. Although not contributing to the relevant criteria, the area does provide nesting habitat for numerous bird species in its sandstone cliffs.

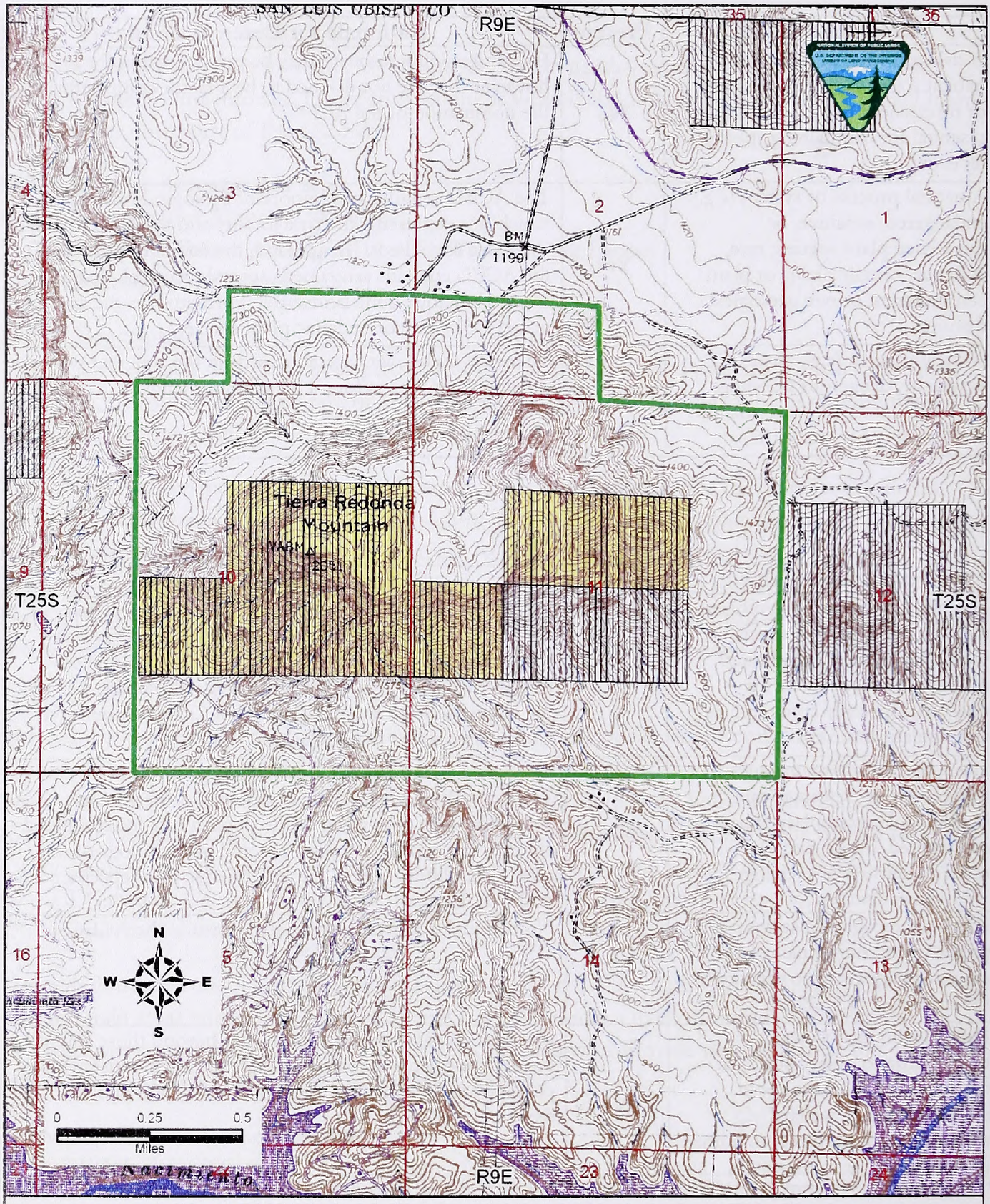
Relevance Criteria Determination:

Relevance Value	Present	Rationale for Determination
A significant historic, cultural, or scenic value (e.g., rare or sensitive archeological resources and religious or cultural resources important to Native Americans).	**No**	Cultural and scenic values may be present within the area, however they are not deemed to be significant values contributing to the nomination of the ACEC.

Relevance Value	Present	Rationale for Determination
A fish and wildlife resource (e.g., habitat for endangered, sensitive, or threatened species; or habitat essential for maintaining species diversity).	No	Fish and wildlife resource may be present within the area, however they are not deemed to be a factor contributing to the nomination of the ACEC.
A natural process or system (e.g., endangered, sensitive, or threatened plant species; rare, endemic, or relic plants or plant communities; or rare geological features).	Yes	The ACEC includes two important geological formations, of which one represents the type locality and the other contains extensive fossil beds. In addition, the southern portion of the ACEC contains sandy beds several feet thick that have created a unique dune landscape. Furthermore, the area is noted for its rare or endemic plant species.
Natural hazards (e.g., areas of avalanche, dangerous flooding, landslides, unstable soils, seismic activity, or dangerous cliffs).	No	There are no known natural hazards in the area that pose a threat greater than is found on all public lands.

Importance Criteria Determination:

Importance Value	Present	Rationale for Determination
Has more than locally significant qualities, which give it special worth, consequence, meaning, distinctiveness, or cause for concern, especially compared to any similar resource.	Yes	Tierra Redonda Mountain was designated as open space in the San Luis Obispo County General Plan to retain areas with fragile plant or animal communities in a natural or undisturbed state. Furthermore, the ACEC contains one of the largest concentrations of the BLM California sensitive *Chorizanthe* species in the world.
Has a quality or circumstance that make it fragile, sensitive, rare, irreplaceable, exemplary, unique, endangered, threatened, or vulnerable to adverse change.	Yes	The area is identified as the geologic type location for the Tierra Redonda Formation. Furthermore, the geologic formations provide scientists the opportunity for continued study of the geology, stratigraphy and paleontology of the area. In addition, several rare or endemic plant species occur in the ACEC.
Has been recognized as warranting protection to satisfy national priority concerns or to carry out the mandates of FLPMA.	No	No national priority concerns are known in the ACEC.
Has a quality that warrants highlighting to satisfy public or management concerns about safety and public welfare (e.g., poses a significant threat to human life and safety or to property).	No	The area contains no known qualities beyond those found on all public lands that warrant highlighting to satisfy either public or management concern over safety and public welfare.



Legend

ACEC Boundary

US Mineral Estate

Land Status

Bureau of Land Management

Private/Other

Tierra Redonda
Area of Critical Environmental Concern
Bureau of Land Management
Bakersfield Field Office

Map I 2.8-1

I.3 PROPOSED AND EXPANDED ACEC EVALUATIONS

I.3.1 ANCIENT LAKESHORES

General Location: The proposed Ancient Lakeshores ACEC consists of five dispersed parcels of public surface and subsurface lands in the San Joaquin Valley occurring in Kern and Kings Counties. Two of these parcels are located 14 miles east of the city of Taft while the remaining three are approximately 30, 40, and 55 miles respectively north of Taft.

Public Surface Acreage: 1,985 acres
Other Land Owner Acreage: 56 acres
Federal Mineral Estate Acreage: 467 acres (0 acres Split Estate)
Total Proposed ACEC: 2,041 acres

Area Description:
This proposed ACEC, nominated principally for its cultural and biological resources, combines the existing Alkali Sink and Goose Lake ACECs and adds a new parcel located on the Sand Ridge portion of Atwell Island. These areas are located along the lakeshores of Tulare, Buena Vista, Goose and other lakes that once dominated this portion of the San Joaquin Valley and contain a mix of vegetation types including the rare alkali sink communities and iodine bush series vegetation (Sawyer and Wolf 1995, also known as valley sink scrub in Holland 1986) and associated wildlife.

The proposed ACEC includes two areas containing significant archaeological sites: Atwell Island and Goose Lake. The Atwell Island area is associated with some of the earliest Native American cultures of California that utilized the area surrounding the former Tulare Lake (one of a handful of pluvial lakes in California, meaning a lake formed during the late Pleistocene or early Holocene time period). Specifically, the Sand Ridge, a former island on Tulare Lake, is known to have been a Wowol Yokuts village site, and has yielded artifacts spanning the entire cultural horizon in California. Goose Lake contains a significant archaeological site of high integrity making it rare in the San Joaquin Valley as the continued conversion of most land along the shorelines of dry lakes to agriculture has degraded or destroyed other such sites. Research conducted at the site suggests that it was occupied intensively during the prehistoric Middle Period with a less intense use through to protohistoric times. The Goose Lake area was probably occupied by the Tulamni or the Tuhohi groups of Southern Valley Yokuts.

Although all the parcels contain the rare iodine bush series of vegetation the three parcels currently identified as the Alkali Sink ACEC exhibit prime examples of the variation in species composition naturally found in this community. Furthermore, BLM sensitive plants in these areas include three species of annual saltbush (*A. tulariensis, A. valicola*), *Cordylanthus mollis* ssp. *hispidus*, *Delphinium recurvatum*, and *Layia leucopappa.* Non-native invasive weed species have encroached on the proposed ACEC parcels, threatening to out-compete these rare and sensitive native species.

In addition to the cultural and vegetative resources of the area, the USFWS and CDFG identified the area as important for the recovery of federally listed species in the *Kern County Valley Floor HCP*

that established the area as a reserve (red zone) to protect listed species habitat in western Kern County.

The Alkali Sink and Goose Lake parcels of the proposed ACEC are considered to have high potential for the occurrence of oil and gas; however, some portions may not be developable.

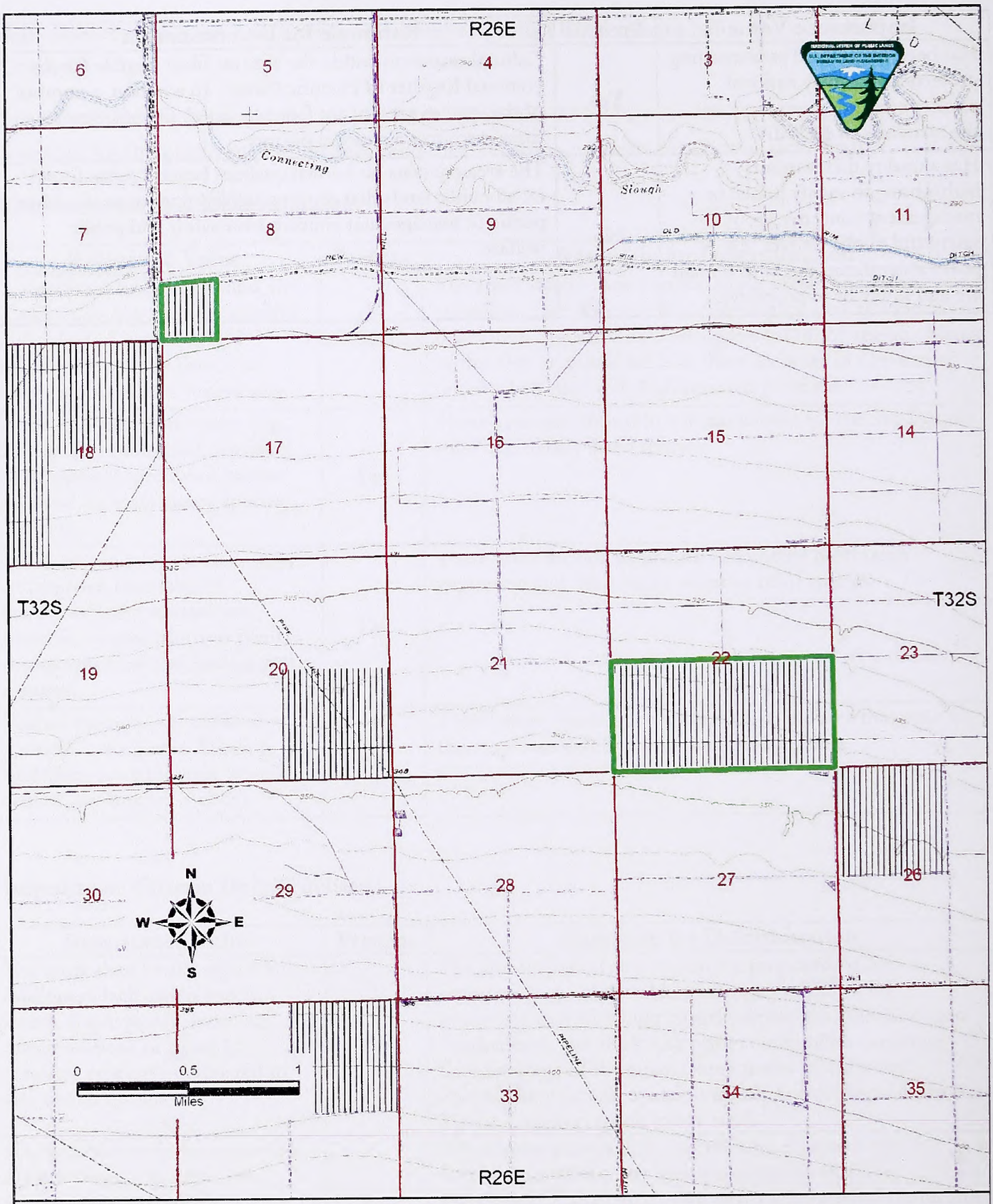
Relevance Criteria Determination:

Relevance Value	Present	Rationale for Determination
A significant historic, cultural, or scenic value (e.g., rare or sensitive archeological resources and religious or cultural resources important to Native Americans).	**Yes**	The areas, due to their location along prehistoric lakes shorelines, host a wealth of archaeological sites relating to the Native American use and settlement of the region. Many of the sites on public lands in these areas are in a relatively undisturbed state with high research potential.
A fish and wildlife resource (e.g., habitat for endangered, sensitive, or threatened species; or habitat essential for maintaining species diversity).	**Yes**	These areas are known to contain habitat for the San Joaquin suite of federally listed species.
A natural process or system (e.g., endangered, sensitive, or threatened plant species; rare, endemic, or relic plants or plant communities; or rare geological features).	**Yes**	These areas include habitat for rare iodine bush series vegetation and other BLM sensitive plant species.
Natural hazards (e.g., areas of avalanche, dangerous flooding, landslides, unstable soils, seismic activity, or dangerous cliffs).	**No**	There are no known natural hazards in the area that pose a threat greater than is found on all public lands.

Importance Criteria Determination:

Importance Value	Present	Rationale for Determination
Has more than locally significant qualities, which give it special worth, consequence, meaning, distinctiveness, or cause for concern, especially compared to any similar resource.	**Yes**	The archaeological sites within the proposed ACEC represent some of the oldest examples of only a few remaining sites with high integrity within the cultural region. Furthermore, the alkali sink plant communities occurring here are some of the rarest communities in the world. Finally, these parcels contain the only known populations of Tipton kangaroo rat on public lands.
Has a quality or circumstance that make it fragile, sensitive, rare, irreplaceable, exemplary, unique, endangered, threatened, or vulnerable to adverse change.	**Yes**	These areas are currently experiencing encroachment by invasive weeds that are out-competing the sensitive vegetation. These parcels also have high potential for oil and gas development and have been subject to illegal dumping.

Importance Value	Present	Rationale for Determination
Has been recognized as warranting protection to satisfy national priority concerns or to carry out the mandates of FLPMA.	**Yes**	Cultural resources within the area are likely eligible for the National Register of Historic Places. In addition, a number of the species present are federally listed, therefore making these resources a national priority.
Has a quality that warrants highlighting to satisfy public or management concerns about safety and public welfare (e.g., poses a significant threat to human life and safety or to property).	**No**	The area contains no known qualities beyond those found on all public lands that warrant highlighting to satisfy either public or management concern over safety and public welfare.



Legend

ACEC Boundary

US Mineral Estate

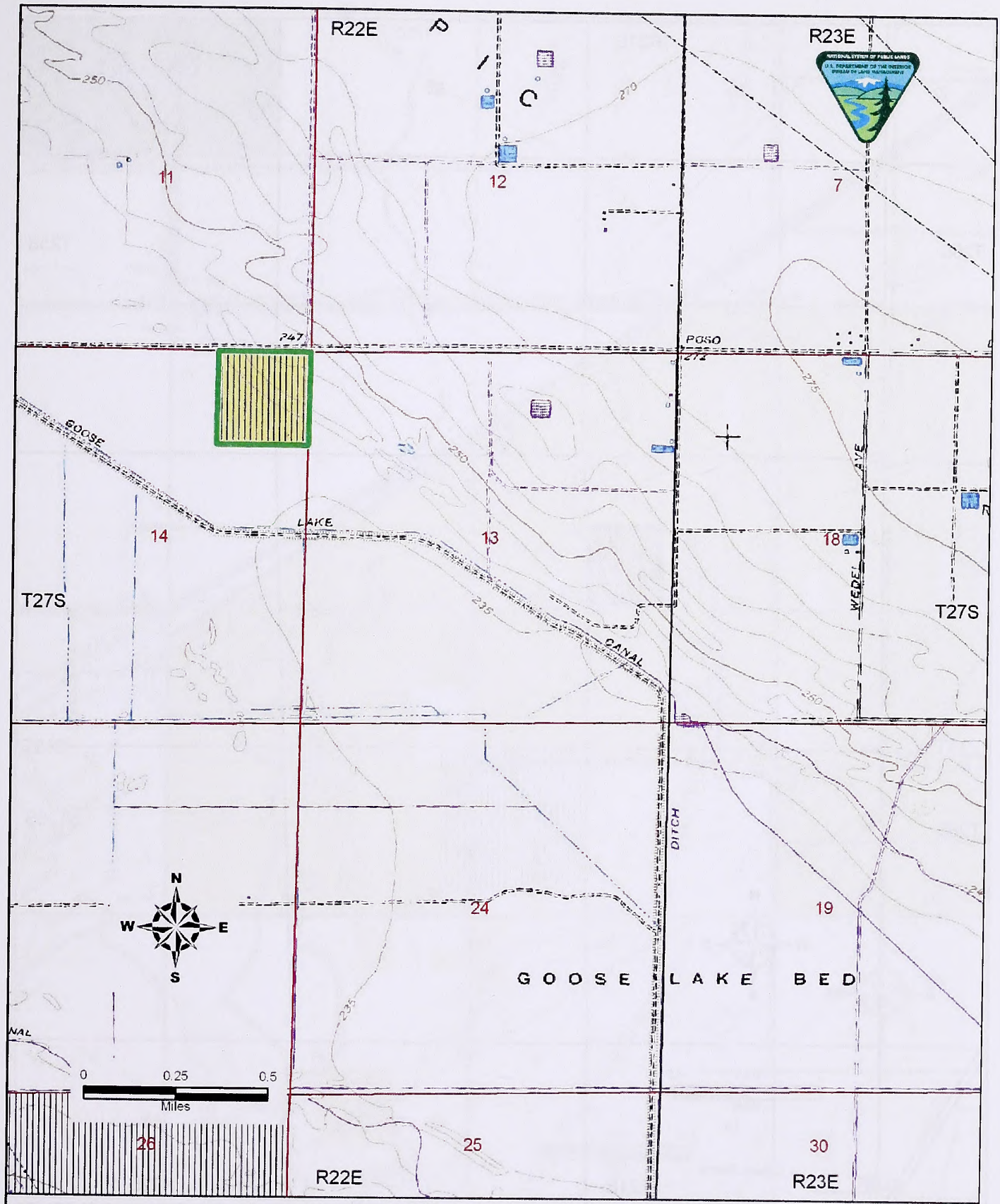
Land Status

Bureau of Land Management

Private/Other

Proposed Ancient Lakeshores, Alkali Sinks South Unit
Area of Critical Environmental Concern
Bureau of Land Management
Bakersfield Field Office

Map I 3.1-1



Legend

ACEC Boundary

US Mineral Estate

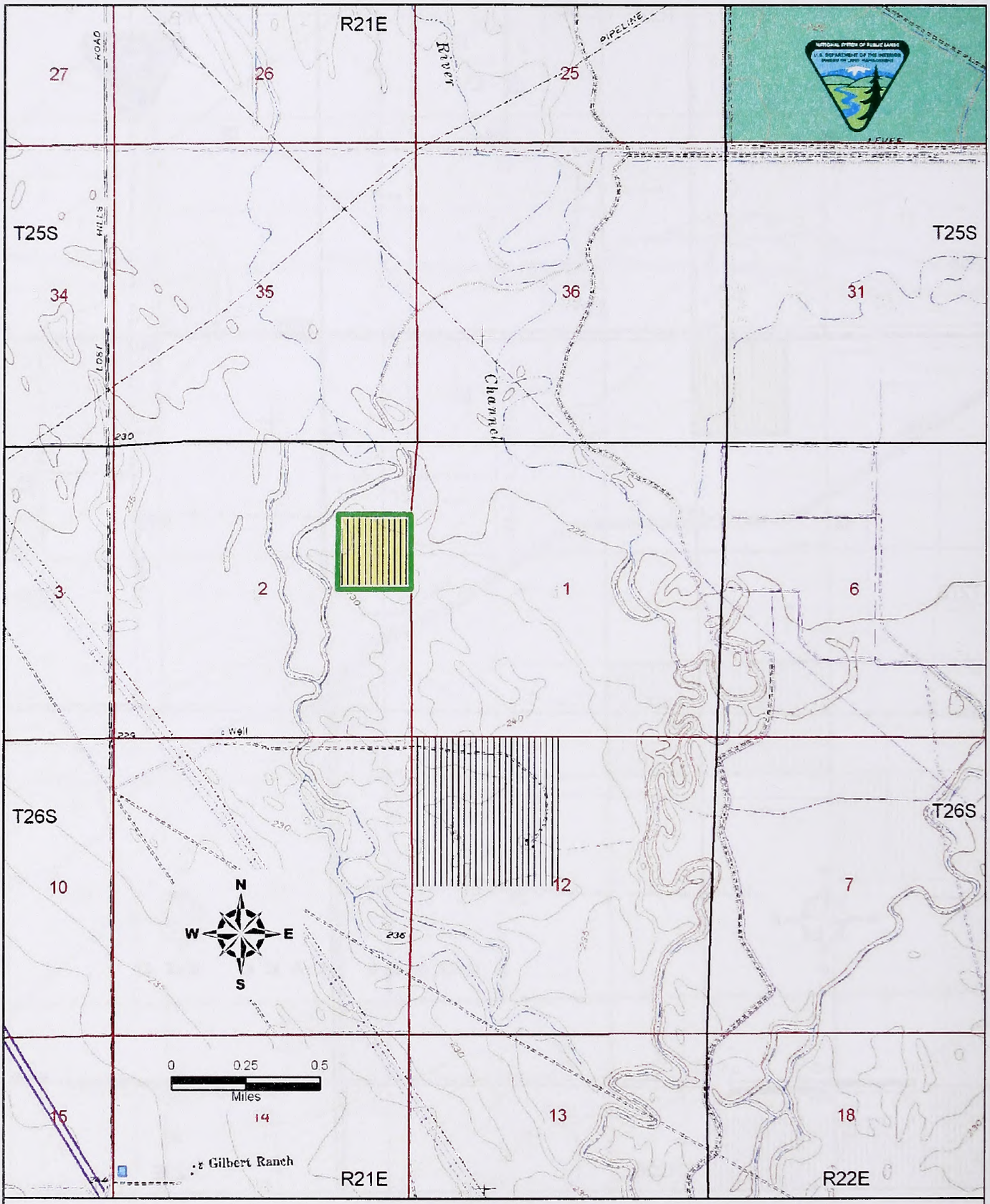
Land Status

Bureau of Land Management

Private/Other

Proposed Ancient Lakeshores, Goose Lake Unit
Area of Critical Environmental Concern
Bureau of Land Management
Bakersfield Field Office

Map I 3.1-2



Legend

ACEC Boundary

US Mineral Estate

Land Status

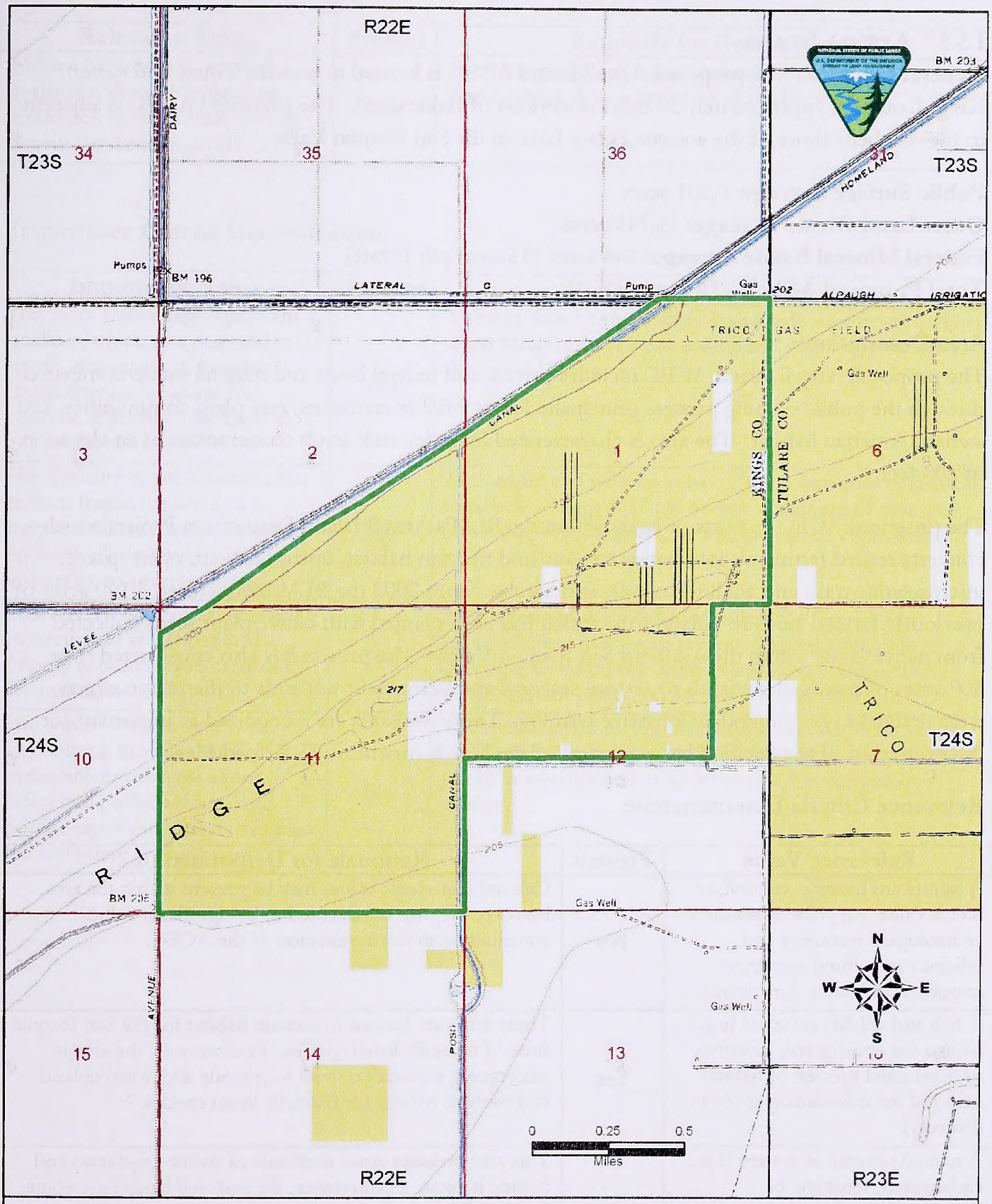
Bureau of Land Management

US Fish and Wildlife Service

Private/Other

Proposed Ancient Lakeshores, Alkali Sinks North Unit
Area of Critical Environmental Concern
Bureau of Land Management
Bakersfield Field Office

Map I 3.1-3



Legend

ACEC Boundary

US Mineral Estate

Land Status

Bureau of Land Management

Private/Other

Proposed Ancient Lakeshores, Sand Ridge Unit
Area of Critical Environmental Concern
Bureau of Land Management
Bakersfield Field Office

Map I 3.1-4

I.3.2 ATWELL ISLAND

General Location: The proposed Atwell Island ACEC is located in western Tulare and eastern Kings Counties, approximately 30 miles northwest of Bakersfield. The proposed ACEC is adjacent to the southern shore of the ancient Tulare Lake in the San Joaquin Valley.

Public Surface Acreage: 6,301 acres
Other Land Owner Acreage: 15,745 acres
Federal Mineral Estate Acreage: 844 acres (0 acres Split Estate)
Total Proposed ACEC: 22,046 acres

Area Description:
The proposed Atwell Island ACEC includes private and federal lands and mineral estate nominated through the public scoping process principally for its wildlife resources, rare plant communities, and wetland/riparian habitat. The area is characterized by valley sink scrub communities at an elevation of 200 feet.

The proposed ACEC consists of lands within the BLM's Atwell Island Restoration Project which converts retired farmlands into native wetland and riparian habitat, upland habitat, open space, interpretative trails and wildlife-friendly agriculture. Since 2002 the BLM has restored 3,100 acres of previously farmed lands to upland habitat that has been planted with native plant seeds collected from native lands within the southern San Joaquin Valley. The project has also constructed over 300 acres of managed wetlands to restore seasonal and permanent wetlands to the region which were drained to accommodate intensive farming. These wetlands are recognized as important for the protection of the Pacific Flyway portion of the North American Waterfowl Plan.

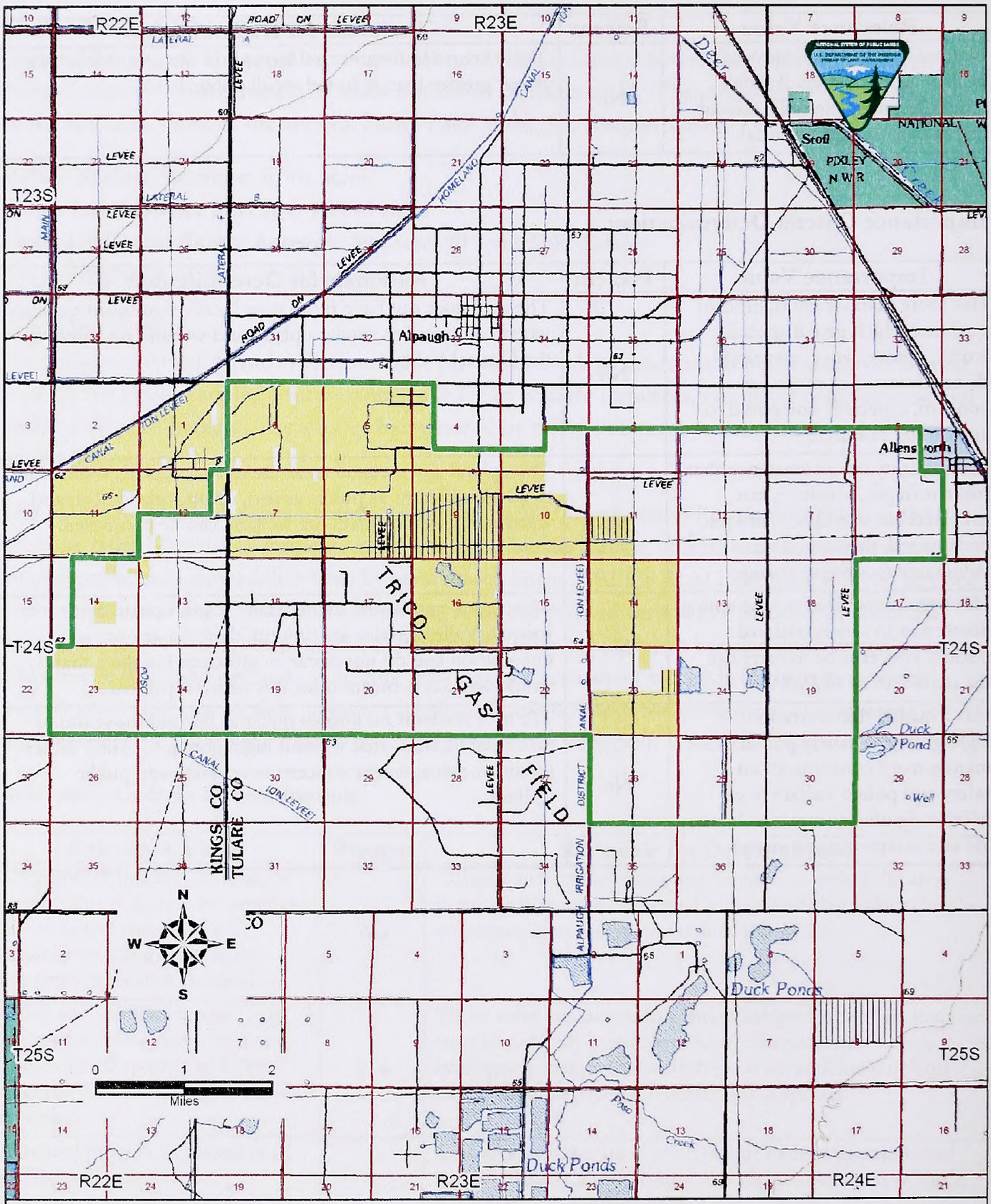
Relevance Criteria Determination:

Relevance Value	Present	Rationale for Determination
A significant historic, cultural, or scenic value (e.g., rare or sensitive archeological resources and religious or cultural resources important to Native Americans).	**No**	Cultural and scenic values may be present within the area, however they are not deemed to be significant values contributing to the nomination of the ACEC.
A fish and wildlife resource (e.g., habitat for endangered, sensitive, or threatened species; or habitat essential for maintaining species diversity).	**Yes**	These areas are known to contain habitat for the San Joaquin suite of federally listed species. Furthermore, the area is undergoing restoration work to provide additional upland and wetland habitat for federally listed species.
A natural process or system (e.g., endangered, sensitive, or threatened plant species; rare, endemic, or relic plants or plant communities; or rare geological features).	**Yes**	This area includes small remnants of native vegetation and natural habitat. Furthermore, the restored lands have some, but not all, elements of relic natural communities. Managed wetlands have been constructed to restore permanent and seasonal wetlands.

Relevance Value	Present	Rationale for Determination
Natural hazards (e.g., areas of avalanche, dangerous flooding, landslides, unstable soils, seismic activity, or dangerous cliffs).	No	There are no known natural hazards in the area that pose a threat greater than is found on all public lands.

Importance Criteria Determination:

Importance Value	Present	Rationale for Determination
Has more than locally significant qualities, which give it special worth, consequence, meaning, distinctiveness, or cause for concern, especially compared to any similar resource.	No	The area does not have more than locally significant qualities when compared to similar upland and wetland resources in the Central Valley.
Has a quality or circumstance that make it fragile, sensitive, rare, irreplaceable, exemplary, unique, endangered, threatened, or vulnerable to adverse change.	No	The upland and wetland areas are not particularly vulnerable to adverse change as public access, unauthorized uses, and water supplies to protect the wetland can be controlled.
Has been recognized as warranting protection to satisfy national priority concerns or to carry out the mandates of FLPMA.	No	Although a number of the federally listed, upland San Joaquin Valley species are present, their occurrence is uncommon and do not occur in sufficient numbers that would warrant protection for this national priority.
Has a quality that warrants highlighting to satisfy public or management concerns about safety and public welfare (e.g., poses a significant threat to human life and safety or to property).	No	The area contains no known qualities beyond those found on all public lands that warrant highlighting to satisfy either public or management concern over safety and public welfare.



Legend

ACEC Boundary

US Mineral Estate

Land Status

Bureau of Land Management

Private/Other

Proposed Atwell Island
Area of Critical Environmental Concern
Bureau of Land Management
Bakersfield Field Office

Map I 3.2-1

I.3.3 BITTER CREEK

General Location: The proposed Bitter Creek ACEC is located in southwestern Kern County, 13 miles east of Cuyama and 9 miles south of Maricopa. The area is adjacent to the Carrizo Plain National Monument to the northwest, the Los Padres National Forest to the south, the Wind Wolves Preserve to the east, and encompasses the Bitter Creek National Wildlife Refuge outside the National Forest boundary.

Public Surface Acreage: 1,026 acres
Other Land Owner Acreage: 19,888 acres
Federal Mineral Estate Acreage: 6,121 acres (5,095 acres Split Estate)
Total Proposed ACEC: 20,914 acres

Area Description:
The proposed Bitter Creek ACEC includes private and federal lands, including both BLM and USFWS. The area has been principally nominated for its important foraging and roosting habitat for the federally listed endangered California condor. One BLM surface parcel of the ACEC has become a commonly used roosting site for California condors at the refuge and for some birds that have been released from the adjacent capture pen. This complex has become the primary release site for the captive breeding program or for condors that have been captured for telemetry and health studies. Furthermore, the unique combination of north-facing slopes, prevailing updraft winds and roost trees that heavily used by condors in the spring and summer seasons adds to the importance of the area.

The area is also within two Essential Condor Habitat Areas, the Carrizo and Elkhorn Plains, and the Southwest Kern County. Portions of the area also provide habitat for other federally listed species including the San Joaquin kit fox, blunt-nosed leopard lizard, and giant kangaroo rat. The area has been identified by the U.S. Fish and Wildlife Service as a potential reserve area to assist in the recovery of the San Joaquin kit fox.

Vegetation communities within the area include grassland, oak woodland, chaparral, pinion pine/juniper/oak woodland, and riparian habitat. Located in the southwestern San Joaquin Valley foothills, with elevations ranging from 1,600 to 4,680 feet; the nomination encompasses the Bitter Creek National Wildlife Refuge managed by the USFWS.

In addition to the federally listed species, the Bitter Creek area provides habitat for species of Federal concern such as western spade foot toad, western horned lizard, and tri-colored blackbird.

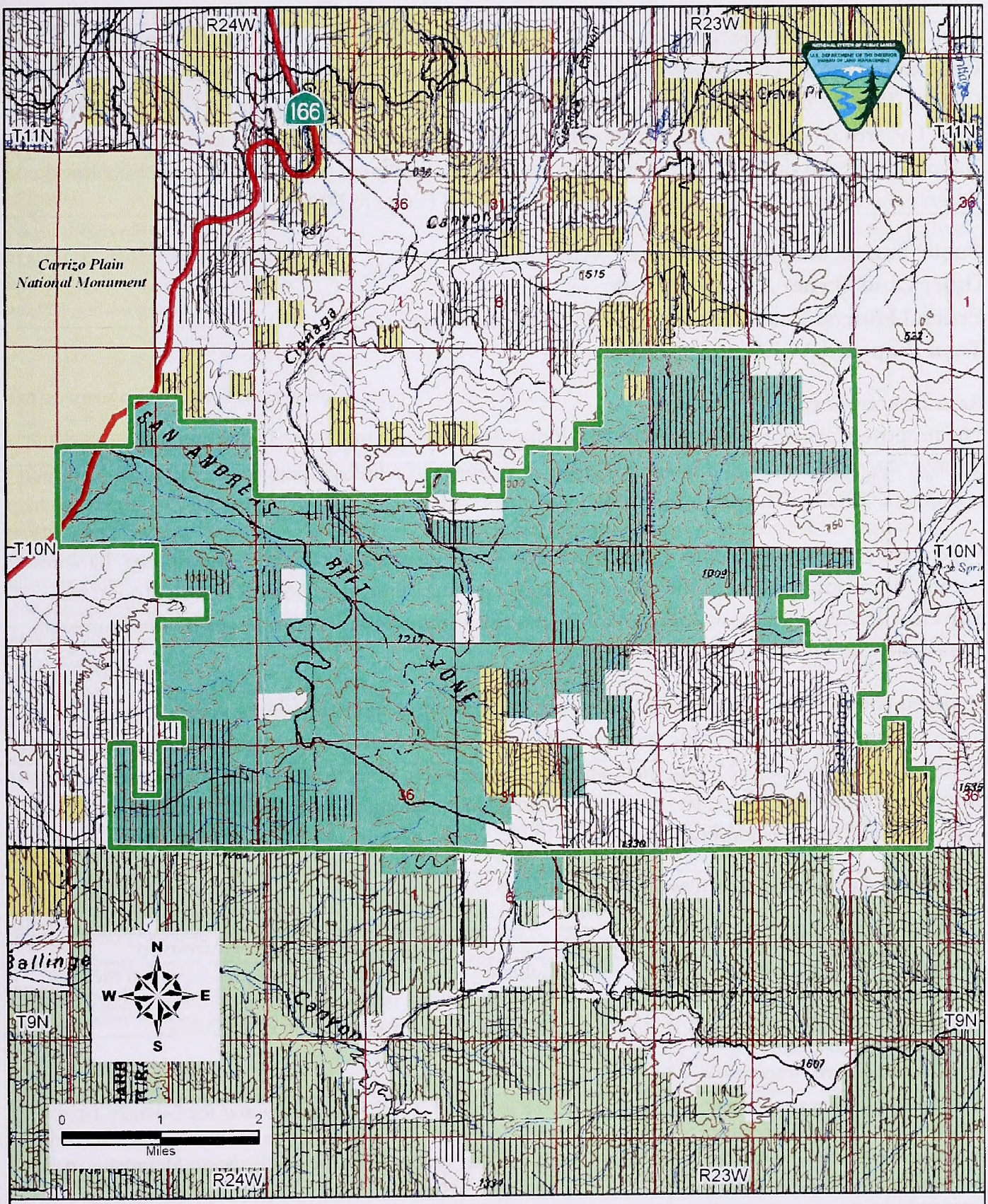
Relevance Criteria Determination:

Relevance Value	Present	Rationale for Determination
A significant historic, cultural, or scenic value (e.g., rare or sensitive archeological resources and religious or cultural resources important to Native Americans).	No	Cultural and scenic values may be present within the area, however they are not deemed to be significant values contributing to the nomination of the ACEC.

Relevance Value	Present	Rationale for Determination
A fish and wildlife resource (e.g., habitat for endangered, sensitive, or threatened species; or habitat essential for maintaining species diversity).	**Yes**	The proposed ACEC contains designated Essential Habitat for the California condor and has an important roost site used in conjunction with capture activities critical for species recovery. It also provides habitat for the federally recognized San Joaquin suite of listed species.
A natural process or system (e.g., endangered, sensitive, or threatened plant species; rare, endemic, or relic plants or plant communities; or rare geological features).	**No**	Natural process and systems may be present within the area, however they are not deemed to be a factor contributing to the nomination of the ACEC.
Natural hazards (e.g., areas of avalanche, dangerous flooding, landslides, unstable soils, seismic activity, or dangerous cliffs).	**No**	There are no known natural hazards in the area that pose a threat greater than is found on all public lands.

Importance Criteria Determination:

Importance Value	Present	Rationale for Determination
Has more than locally significant qualities, which give it special worth, consequence, meaning, distinctiveness, or cause for concern, especially compared to any similar resource.	**Yes**	The area includes habitat designated essential for the endangered California condor. Furthermore, the proposed ACEC encompasses the Bitter Creek National Wildlife Refuge. In addition, the area has been identified by the USFWS as a "reserve area" to assist in the recovery of the San Joaquin kit fox.
Has a quality or circumstance that make it fragile, sensitive, rare, irreplaceable, exemplary, unique, endangered, threatened, or vulnerable to adverse change.	**Yes**	This proposed ACEC lies within the Bitter Creek National Wildlife Refuge which was acquired specifically for the conservation and recovery of the California condor. The area is within the Cuyama Basin which is considered to have high potential for the occurrence of oil and gas and thus needs special consideration.
Has been recognized as warranting protection to satisfy national priority concerns or to carry out the mandates of FLPMA.	**Yes**	The California condor is a federally listed species and the Bitter Creek area has been designated as essential habitat both of which elevate the area as a national priority. The use of the BLM lands by California condors, in conjunction with the release site on the Refuge, elevates the importance of the area in achieving success of the capture and release program. Furthermore, the area provides habitat for other federally listed species.
Has a quality that warrants highlighting to satisfy public or management concerns about safety and public welfare (e.g., poses a significant threat to human life and safety or to property).	**No**	The area contains no known qualities beyond those found on all public lands that warrant highlighting to satisfy either public or management concern over safety and public welfare.



Legend

ACEC Boundary

US Mineral Estate

Land Status

Bureau of Land Management

US Forest Service

US Fish and Wildlife Service

Private/Other

Proposed Bitter Creek
Area of Critical Environmental Concern
Bureau of Land Management
Bakersfield Field Office

Map I 3.3-1

I.3.4 CHIMINEAS RANCH

General Location: The proposed Chimineas Ranch ACEC is located in southern San Luis Obispo County, 35 miles northeast of Santa Maria and 35 miles west of Maricopa, north of State Highway 166. The area is adjacent to the Carrizo Plain National Monument to the east and the Los Padres National Forest to the west, and is encompassed by the Chimineas unit of the Carrizo Ecological Reserve managed by California Department of Fish and Game (CDFG).

Public Surface Acreage: 6,594 acres
Other Land Owner Acreage: 0 acres
Federal Mineral Estate Acreage: 6,594 acres (0 acres Split Estate)
Total Proposed ACEC: 6,594 acres

Area Description:
The proposed Chimineas Ranch ACEC includes state, private, and federal land that was nominated through the public scoping process principally to manage as a linkage between Los Padres National Forest and CPNM. The proposed ACEC is entirely within the Caliente NCLWMA.

Vegetation communities within the area include oak woodland, coastal scrub, and riparian habitats. Located at the intersection of the Caliente Range, La Panza Range, and Sierra Madre Mountains, with elevations ranging from 1,600 to 2,900 feet; the nomination is encompassed by the Chimineas unit of the Carrizo Plain Ecological Reserve.

Management objectives of the NCLWMA include improving and maintaining vegetative communities that benefit wildlife species, and improving recreation opportunities for hunting, hiking, and nature study. Management actions to meet these objectives have provided adequate protection of the relevant values and special management attention from ACEC designation would not necessarily provide additional protection to the values present.

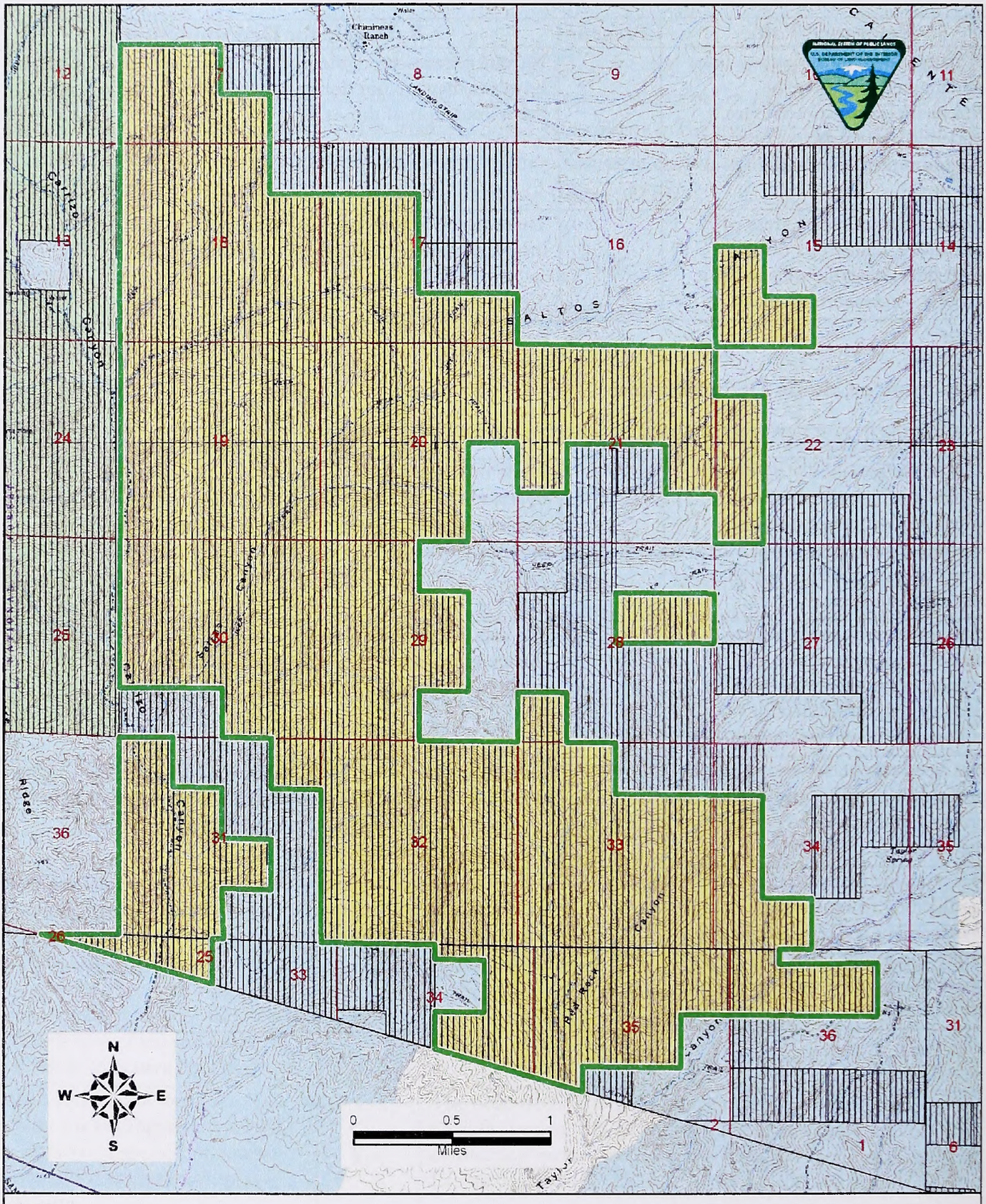
Relevance Criteria Determination:

Relevance Value	Present	Rationale for Determination
A significant historic, cultural, or scenic value (e.g., rare or sensitive archeological resources and religious or cultural resources important to Native Americans).	**No**	Cultural and scenic values may be present within the area, however they are not deemed to be significant values contributing to the nomination of the ACEC.
A fish and wildlife resource (e.g., habitat for endangered, sensitive, or threatened species; or habitat essential for maintaining species diversity).	**Yes**	The proposed ACEC contains habitat for federally listed wildlife species. The area may be used as a dispersal corridor connecting species from the San Emigdio Mountains to the La Panza Range.

Relevance Value	Present	Rationale for Determination
A natural process or system (e.g., endangered, sensitive, or threatened plant species; rare, endemic, or relic plants or plant communities; or rare geological features).	No	Natural process and systems may be present within the area, however they are not deemed to be a factor contributing to the nomination of the ACEC.
Natural hazards (e.g., areas of avalanche, dangerous flooding, landslides, unstable soils, seismic activity, or dangerous cliffs).	No	There are no known natural hazards in the area that pose a threat greater than is found on all public lands.

Importance Criteria Determination:

Importance Value	Present	Rationale for Determination
Has more than locally significant qualities, which give it special worth, consequence, meaning, distinctiveness, or cause for concern, especially compared to any similar resource.	No	While the proposed ACEC contains oak woodlands and riparian habitats, which are an important wildlife and plant community, the area does not represent more than locally significant qualities.
Has a quality or circumstance that make it fragile, sensitive, rare, irreplaceable, exemplary, unique, endangered, threatened, or vulnerable to adverse change.	No	The area is not particularly rare or vulnerable to adverse change as it is surrounded by the USFS and CDFG Ecological Reserve.
Has been recognized as warranting protection to satisfy national priority concerns or to carry out the mandates of FLPMA.	No	Although a number of the federally listed San Joaquin Valley species are present, their occurrence is uncommon and do not occur in sufficient numbers that would warrant protection for this national priority.
Has a quality that warrants highlighting to satisfy public or management concerns about safety and public welfare (e.g., poses a significant threat to human life and safety or to property).	No	The area contains no known qualities beyond those found on all public lands that warrant highlighting to satisfy either public or management concern over safety and public welfare.


Chimineas Ranch
Cottonwood Canyon
Santos Canyon
Red Rock Canyon
Taylor Canyon
N
W
E
S
0
0.5
1
Miles
Legend
ACEC Boundary
US Mineral Estate
Land Status
Bureau of Land Management
US Forest Service
State
Private/Other
Proposed Chimineas Ranch
Area of Critical Environmental Concern
Bureau of Land Management
Bakersfield Field Office
Map I 3.4-1

I.3.5 COMPENSATION LANDS

General Location: The proposed Compensation Lands ACEC will include all lands acquired as compensation under the Endangered Species Act to offset habitat loss from a permitted project. Principally these compensation lands will occur in the San Joaquin Valley and those existing parcels of compensation lands are currently located in western Kern County.

Current Public Surface Acreage: 283 acres
Current Federal Mineral Estate Acreage: 80 acres
Current Total Proposed ACEC: 283 acres

Area Description:
The proposed Compensation Lands ACEC will only include public lands that have been acquired as compensation to offset habitat loss from authorized projects. Until these lands are identified by the USFWS and CDFG, their specific location and attributes are unknown, but will, by definition, include habitat for federally listed animal and/or plant species. These lands are to be managed in perpetuity as habitat for the listed species impacted by the project's habitat disturbance. Under certain circumstances, lesser quality habitat that could be improved through habitat restoration to provide long-term habitat for the identified species may be accepted.

Habitat compensation is commonly used in the San Joaquin Valley by the USFWS and CDFG to secure long-term habitat for the conservation and recovery of threatened and endangered species such as San Joaquin kit fox, blunt-nosed leopard lizard, giant kangaroo rat, Tipton kangaroo rat, San Joaquin antelope squirrel, Kern mallow, San Joaquin woolly threads, and California jewelflower. It is standard practice for projects that cause habitat loss of these species to be required to secure land in fee title or conservation easement to ensure such lands would be managed in perpetuity for the impacted species. Compensation lands are usually located within "red zone" habitat preserves or "green zone" habitat linkages. Occasionally, specialty preserves are created for listed species that have limited distributions and compensation lands can be used to acquire such preserves.

The proposed ACEC currently includes four parcels donated to BLM as compensation to offset habitat loss from authorized projects occurring in Kern County.

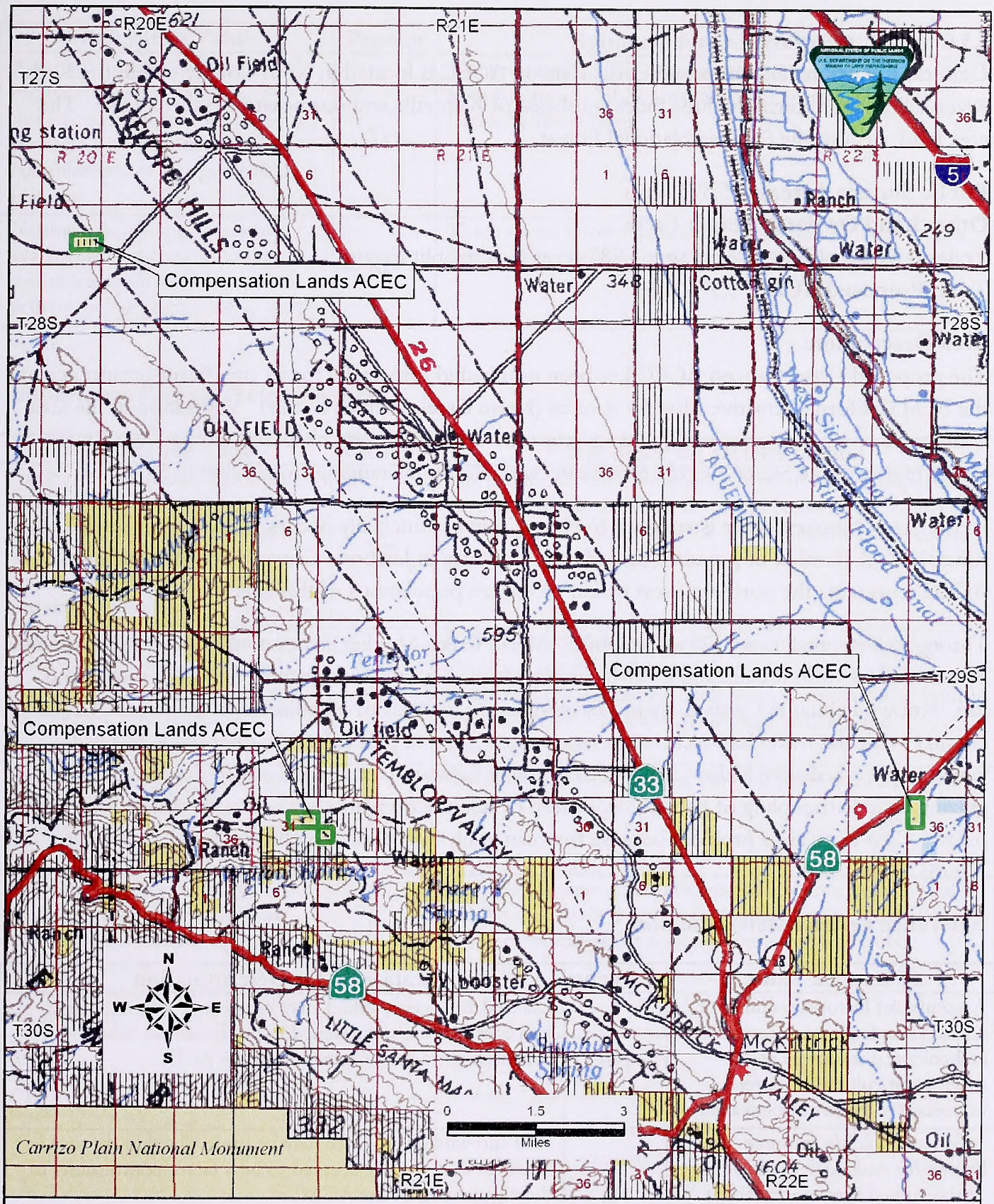
Relevance Criteria Determination:

Relevance Value	Present	Rationale for Determination
A significant historic, cultural, or scenic value (e.g., rare or sensitive archeological resources and religious or cultural resources important to Native Americans).	No	Cultural and scenic values may be present within the area, however they are not deemed to be significant values contributing to the nomination of the ACEC.
A fish and wildlife resource (e.g., habitat for endangered, sensitive, or threatened species; or habitat essential for maintaining species diversity).	Yes	The proposed areas (both existing and to be acquired) are required to have habitat for and extant populations of the federally listed animal species for which these areas were purchased as off-set for projects disturbing habitat.

Relevance Value	Present	Rationale for Determination
A natural process or system (e.g., endangered, sensitive, or threatened plant species; rare, endemic, or relic plants or plant communities; or rare geological features).	Yes	The proposed areas (both existing and to be acquired) are required to have habitat for and extant populations of the federally listed plant species for which these areas were purchased as off-set for projects disturbing habitat.
Natural hazards (e.g., areas of avalanche, dangerous flooding, landslides, unstable soils, seismic activity, or dangerous cliffs).	No	There are no known natural hazards in the area that pose a threat greater than is found on all public lands.

Importance Criteria Determination:

Importance Value	Present	Rationale for Determination
Has more than locally significant qualities, which give it special worth, consequence, meaning, distinctiveness, or cause for concern, especially compared to any similar resource.	Yes	These areas are considered to be more than locally significant as either USFWS or CDFG has identified them as having values that are acceptable compensation for habitat lost due to surface disturbing activities in accordance with the ESA and CESA.
Has a quality or circumstance that make it fragile, sensitive, rare, irreplaceable, exemplary, unique, endangered, threatened, or vulnerable to adverse change.	Yes	These areas prior to identification as compensation must receive approval as appropriate compensation lands by either USFWS or CDFG. This approval identified qualities in these lands worthy of protection.
Has been recognized as warranting protection to satisfy national priority concerns or to carry out the mandates of FLPMA.	Yes	These areas contain habitat and extant populations of federally listed plant and animal species. Identification of these species as federally listed elevates the management of their habitats as a national priority.
Has a quality that warrants highlighting to satisfy public or management concerns about safety and public welfare (e.g., poses a significant threat to human life and safety or to property).	No	The area contains no known qualities beyond those found on all public lands that warrant highlighting to satisfy either public or management concern over safety and public welfare.


Compensation Lands ACEC
Compensation Lands ACEC
Compensation Lands ACEC
T27S
T28S
T29S
T30S
R20E
R21E
R22E
Oil Field
ANTELOPE HILLS
OIL FIELD
Ranch
Water
Cotton gin
Oil field
TEMBLOR VALLEY
McKittrick
Carrizo Plain National Monument
0 1.5 3
Miles
N
W
E
S
Legend
ACEC Boundary
US Mineral Estate
Land Status
Bureau of Land Management
State
Private/Other
Proposed Compensation Lands
Area of Critical Environmental Concern
Bureau of Land Management
Bakersfield Field Office
Map I 3.5-1

I.3.6 CYRUS CANYON

General Location: The proposed Cyrus Canyon ACEC is located in Kern County within the Kern River Valley approximately three miles southeast of Kernville and northeast of Isabella Lake. The area is adjacent to the Sequoia National Forest.

Public Surface Acreage: 5,373 acres
Other Land Owner Acreage: 1 acre
Federal Mineral Estate Acreage: 4,987 acres (1 acre Split Estate)
Total Proposed ACEC: 5,374 acres

Area Description:
The proposed Cyrus Canyon ACEC has been nominated principally for its significant occurrence of the BLM California sensitive *Mimulus shevockii* (Kelso Creek Monkeyflower). Vegetation in the area consists of non-native grasslands, juniper-grey pine woodlands, and chaparral, in the Kern River Valley region of the Sierra Nevada Mountains with elevations ranging from 2,000 to 5,000 feet.

Kelso Creek Monkeyflower is endemic to Kern County, principally occurs in the Kelso Creek Valley watershed. A number of populations occur to the south in Jawbone Canyon; however the proposed ACEC represents the northern most extent of known populations of this species.

Throughout its small range (70 square miles), Kelso Creek Monkeyflower continues to be threatened by habitat loss from urbanization, off-highway vehicle use, livestock grazing, and agricultural land use. Known habitat in Cyrus Canyon has been lost to trespass by an adjacent homeowner. Cross country vehicular travel has occurred in recent years, despite past efforts to discourage this use which impacts sensitive Kelso Creek Monkeyflower habitat. Detrimental effects from livestock grazing include trampling of habitat, deposition of manure on plants, and outright consumption of plants. Cow flops are a problem because they can easily bury these tiny plants (pers. comm. Dr. Kearns, 2009).

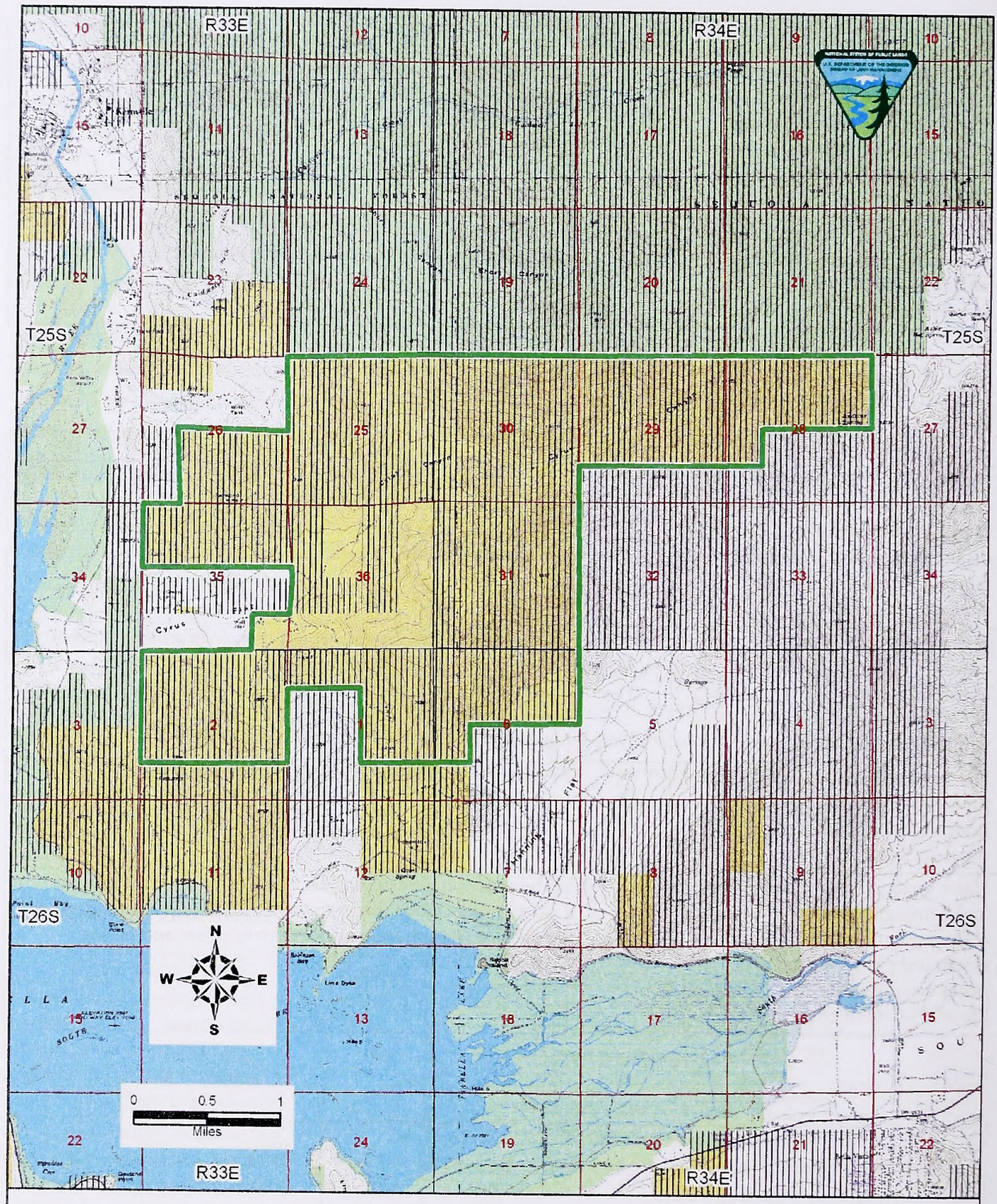
Relevance Criteria Determination:

Relevance Value	Present	Rationale for Determination
A significant historic, cultural, or scenic value (e.g., rare or sensitive archeological resources and religious or cultural resources important to Native Americans).	No	Cultural and scenic values may be present within the area, however they are not deemed to be significant values contributing to the nomination of the ACEC.
A fish and wildlife resource (e.g., habitat for endangered, sensitive, or threatened species; or habitat essential for maintaining species diversity).	No	Fish and wildlife resource may be present within the area, however they are not deemed to be a factor contributing to the nomination of the ACEC.

Relevance Value	Present	Rationale for Determination
A natural process or system (e.g., endangered, sensitive, or threatened plant species; rare, endemic, or relic plants or plant communities; or rare geological features).	**Yes**	The proposed ACEC contains habitat for and extant populations of a BLM sensitive plant species: the Kelso Creek Monkeyflower.
Natural hazards (e.g., areas of avalanche, dangerous flooding, landslides, unstable soils, seismic activity, or dangerous cliffs).	**No**	There are no known natural hazards in the area that pose a threat greater than is found on all public lands.

Importance Criteria Determination:

Importance Value	Present	Rationale for Determination
Has more than locally significant qualities, which give it special worth, consequence, meaning, distinctiveness, or cause for concern, especially compared to any similar resource.	**Yes**	The proposed ACEC contains one of 10 known populations occurring within the Kern River and Kelso Creek valleys. This population represents the most northern extent of the species recorded in recent years.
Has a quality or circumstance that make it fragile, sensitive, rare, irreplaceable, exemplary, unique, endangered, threatened, or vulnerable to adverse change.	**Yes**	Kelso Creek Monkeyflower is a rare, fragile plant species identified as a BLM California sensitive species. It is threatened throughout its small range, by habitat loss from urbanization, off-highway vehicle use, grazing, and agricultural land use.
Has been recognized as warranting protection to satisfy national priority concerns or to carry out the mandates of FLPMA.	**No**	No national priority concerns are known in the area.
Has a quality that warrants highlighting to satisfy public or management concerns about safety and public welfare (e.g., poses a significant threat to human life and safety or to property).	**No**	The area contains no known qualities beyond those found on all public lands that warrant highlighting to satisfy either public or management concern over safety and public welfare.


R33E
R34E
T25S
T26S
N
W
E
S
0 0.5 1
Miles
Legend
ACEC Boundary
US Mineral Estate
Land Status
Bureau of Land Management
US Forest Service
Private/Other
Proposed Cyrus Canyon
Area of Critical Environmental Concern
Bureau of Land Management
Bakersfield Field Office

Map I 3.6-1

I.3.7 EAST TEMBLOR RANGE

General Location: The proposed East Temblor Range ACEC is located in southwestern Kern County approximately six miles west of the city of Taft and spans the ridgeline to the east of the Carrizo Plain National Monument.

Public Surface Acreage: 8,213 acres
Other Land Owner Acreage: 1,541 acres
Federal Mineral Estate Acreage: 8,167 acres (195 acres Split Estate)
Total Proposed ACEC: 9,754 acres

Area Description:
The proposed East Temblor Range ACEC includes public land and federal mineral estate that was nominated through the public scoping process principally for its rare and unique upper Sonoran sub-shrub scrub plant community. The nomination suggested the area contributes to a corridor linking San Joaquin Valley and CPNM. Located on the eastern slopes of the Temblor Range with elevations ranging from 2,500 to 3,600 feet, the proposed ACEC is entirely within the Temblor NCLWMA.

Vegetation in the area consists of upper Sonoran sub-shrub scrub community. The rare plant association (*Ericameria linearifolia)* that occurs through portions of the area is located in several regions of southern California.

The area contains habitat for federally listed giant kangaroo rat at scattered locations, San Joaquin Kit fox and blunt-nosed leopard lizard at lower slopes, and California listed San Joaquin antelope squirrel. The habitat present, however, is considered marginally suitable for many of these listed species due to the steep terrain and is not identified in the *Recovery Plan for Upland Species of the San Joaquin Valley* as a reserve or core area. The area does, however, serve as a linkage between the CPNM and the western San Joaquin Valley, and is identified in the SJV Recovery Plan as a corridor.

Management objectives of the NCLWMA include improving and maintaining shrub communities that benefit wildlife species, stabilizing steep unproductive slopes to reduce erosion, and improving recreation opportunities by improving hunting access and designating routes. Management actions to meet these objectives have provided adequate protection of the relevant values and special management attention from ACEC designation would not necessarily provide additional protection to the values present.

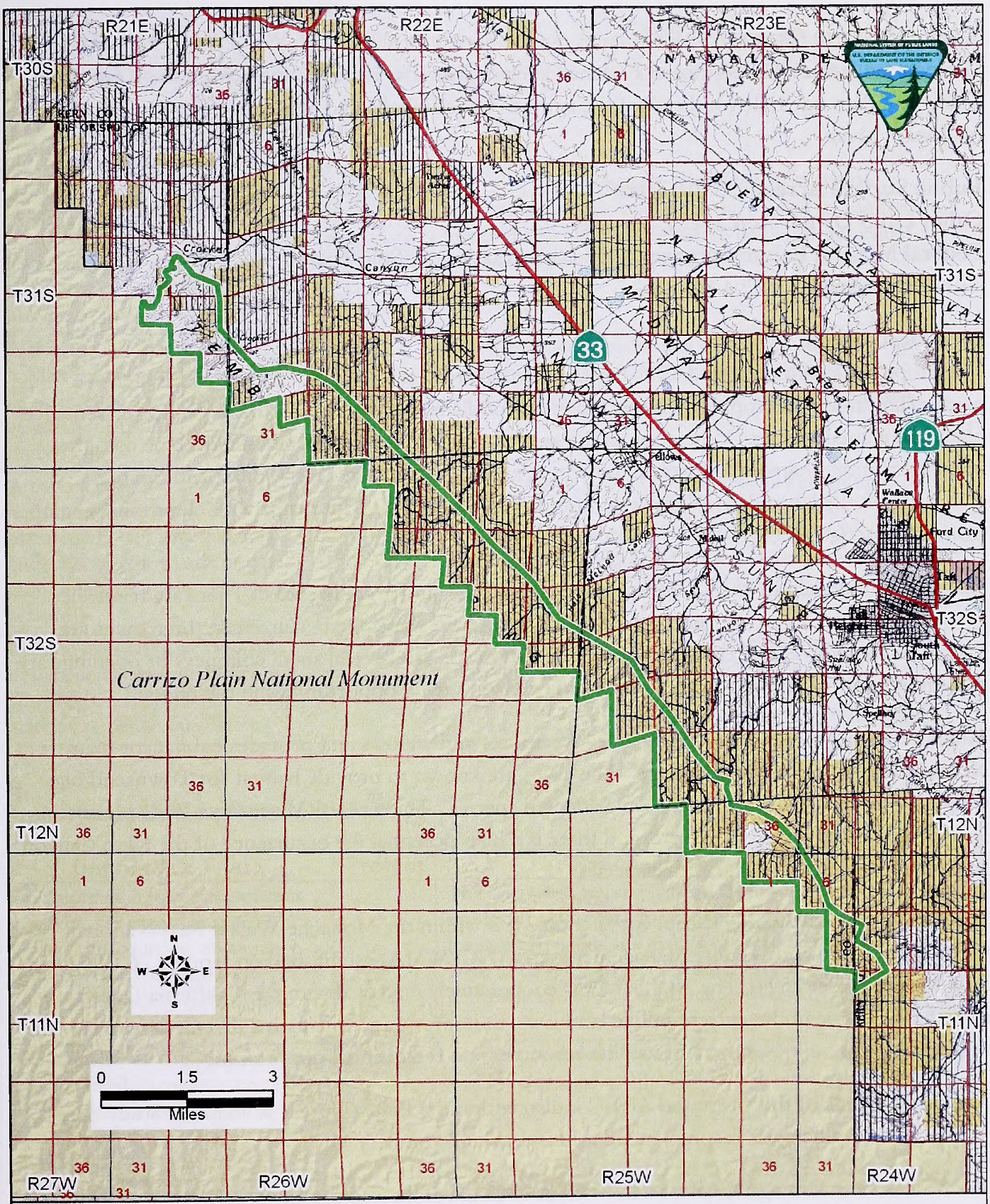
Relevance Criteria Determination:

Relevance Value	Present	Rationale for Determination
A significant historic, cultural, or scenic value (e.g., rare or sensitive archeological resources and religious or cultural resources important to Native Americans).	No	Cultural and scenic values may be present within the area, however they are not deemed to be significant values contributing to the nomination of the ACEC.

Relevance Value	Present	Rationale for Determination
A fish and wildlife resource (e.g., habitat for endangered, sensitive, or threatened species; or habitat essential for maintaining species diversity).	**Yes**	The area is known to contain habitat for the San Joaquin suite of federally listed species.
A natural process or system (e.g., endangered, sensitive, or threatened plant species; rare, endemic, or relic plants or plant communities; or rare geological features).	**Yes**	The area include habitat for the rare *Ericameria linearifolia* vegetation association.
Natural hazards (e.g., areas of avalanche, dangerous flooding, landslides, unstable soils, seismic activity, or dangerous cliffs).	**No**	There are no known natural hazards in the area that pose a threat greater than is found on all public lands.

Importance Criteria Determination:

Importance Value	Present	Rationale for Determination
Has more than locally significant qualities, which give it special worth, consequence, meaning, distinctiveness, or cause for concern, especially compared to any similar resource.	**No**	The values in the area do not have more than locally significant qualities. The habitat for many of the San Joaquin suite of species is considered marginally suitable due to the steep terrain of the area.
Has a quality or circumstance that make it fragile, sensitive, rare, irreplaceable, exemplary, unique, endangered, threatened, or vulnerable to adverse change.	**No**	While the vegetation association is considered rare, it is located in several regions of southern California. The area has been exposed to increased off-highway vehicle use, but through route designation impacts to relevant values will be minimized.
Has been recognized as warranting protection to satisfy national priority concerns or to carry out the mandates of FLPMA.	**No**	Although a number of the federally listed San Joaquin Valley species are present, their occurrence is uncommon and do not occur in sufficient numbers that would warrant protection for this national priority.
Has a quality that warrants highlighting to satisfy public or management concerns about safety and public welfare (e.g., poses a significant threat to human life and safety or to property).	**No**	The area contains no known qualities beyond those found on all public lands that warrant highlighting to satisfy either public or management concern over safety and public welfare.



Legend

ACEC Boundary

US Mineral Estate

Land Status

Bureau of Land Management

Private/Other

Proposed East Temblor Range
Area of Critical Environmental Concern
Bureau of Land Management
Bakersfield Field Office

Map I 3.7-1

I.3.8 ERSKINE CREEK

General Location: The proposed Erskine Creek ACEC is in Kern County within the Kern River Valley less than one mile southeast of the town of Lake Isabella and adjacent to the Sequoia National Forest.

Public Surface Acreage: 3,015 acres
Other Land Owner Acreage: 1,126 acres
Federal Mineral Estate Acreage: 3,957 acres (1,004 acres Split Estate)
Total Proposed ACEC: 4,141 acres

Area Description:
The proposed Erskine Creek ACEC has been nominated principally for its relatively extensive marble/limestone outcrops with caves, riparian woodland, and habitat for BLM California sensitive plant and animal species. Vegetation in the area consists of non-native grasslands, blue oak-grey pine woodlands, chaparral, Mojavean pinyon woodland, Mojavean desert scrub, and riparian woodland, in the Kern River Valley region of the Sierra Nevada Mountains with elevations ranging from 3,000 to 6,000 feet.

The area is underlain by metasedimentary, metavolcanic, and granitic rocks. There are relatively extensive marble/limestone outcrops in which caves have developed. Currently, three caves are known, each with vertical entrances up to 120 feet deep; also several small chimneys or openings are also known in this vicinity. These are the only vertical caving opportunities in the region.

The riparian area along the creek includes sycamores and willows and provides habitat for many Neotropical birds along the drainage. The caves are known to provide habitat for Townsend big-eared bats and may contain unique cave-adapted species. The rare, BLM sensitive Piute Mountains jewelflower is known to occur here, and there is a high potential for occurrence of the Kern Canyon larkspur, also a rare, BLM sensitive species.

All of the proposed ACEC, except for Section 24, is within the Monache-Walker Pass National Cooperative Land and Wildlife Management Area (NCLWMA) established on January 26, 1962, by Public Land Order 2594. The NCLWMA is cooperatively managed with the California Department of Fish and Game under current public land laws, to improve and maintain a diverse assemblage of vegetative communities to benefit wildlife resources and recreational opportunities.

About two-thirds of this proposed ACEC is also within the Piute Cypress Wilderness Study Area (CA-010-046), which was recommended as unsuitable by the BLM.

The Valley View Mining District, established in 1865 encompassed the Erskine Creek area, and intermittent mining activity continued through the 1910s. These early mines were developed for gold, antimony and copper. During the 1950s uranium and tungsten were discovered and prospected in three locations throughout the proposed ACEC. In the 1970s and 1980s the Erskine Creek drainage has been prospected for placer gold and garnets resulting in numerous unnamed prospects on public lands within the Erskine Creek drainage.

The proposed Erskine Creek ACEC has moderate to high potential for gold and tungsten, and low to moderate potential for development of limestone. There are 30 mining claims within the area.

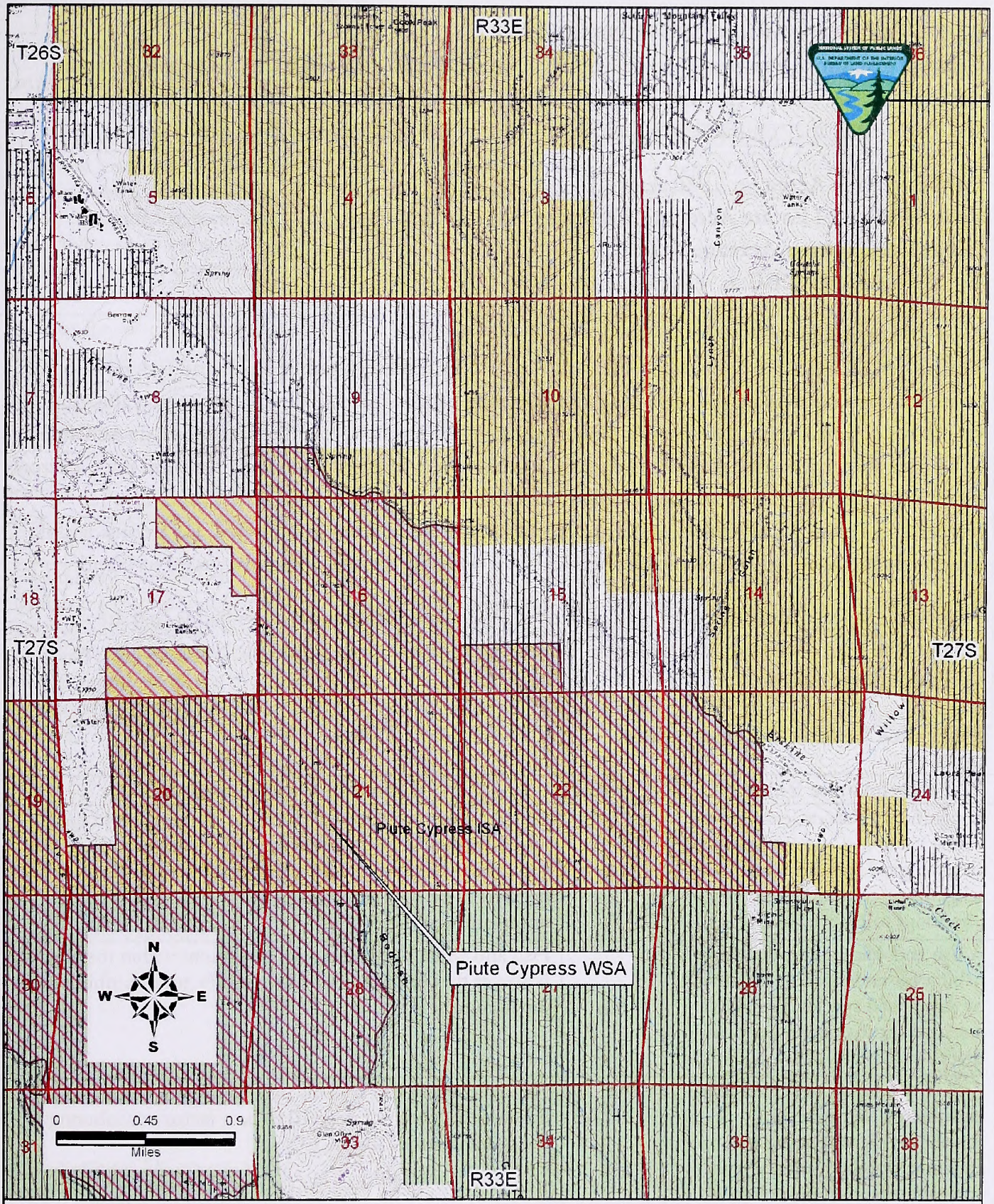
Relevance Criteria Determination:

Relevance Value	Present	Rationale for Determination
A significant historic, cultural, or scenic value (e.g., rare or sensitive archeological resources and religious or cultural resources important to Native Americans).	**No**	Cultural and scenic values may be present within the area, however they are not deemed to be significant values contributing to the nomination of the ACEC.
A fish and wildlife resource (e.g., habitat for endangered, sensitive, or threatened species; or habitat essential for maintaining species diversity).	**Yes**	Caves in the area are known to provide habitat for the BLM California sensitive Townsend big-eared bat. Many neotropical birds nest and migrate along the drainage.
A natural process or system (e.g., endangered, sensitive, or threatened plant species; rare, endemic, or relic plants or plant communities; or rare geological features).	**Yes**	The proposed ACEC contains several known caves with vertical entrances; a rare feature on public land in the region. In addition, the area provides habitat for two rare, BLM sensitive plant species and presents exemplary riparian communities.
Natural hazards (e.g., areas of avalanche, dangerous flooding, landslides, unstable soils, seismic activity, or dangerous cliffs).	**No**	There are no known natural hazards in the area that pose a threat greater than is found on all public lands.

Importance Criteria Determination:

Importance Value	Present	Rationale for Determination
Has more than locally significant qualities, which give it special worth, consequence, meaning, distinctiveness, or cause for concern, especially compared to any similar resource.	**Yes**	The area's rich mining history, dating from the 1865 through the 1980s, give cause for concern since high potential for locatable minerals still exist and could be explored if the area were to be released from Wilderness Study status, which may detrimentally affect the present biological values.
Has a quality or circumstance that make it fragile, sensitive, rare, irreplaceable, exemplary, unique, endangered, threatened, or vulnerable to adverse change.	**Yes**	The area contains habitat for a number of plant and animal species identified as BLM California sensitive species.
Has been recognized as warranting protection to satisfy national priority concerns or to carry out the mandates of FLPMA.	**No**	No national priority concerns are known in the area.

Importance Value	Present	Rationale for Determination
Has a quality that warrants highlighting to satisfy public or management concerns about safety and public welfare (e.g., poses a significant threat to human life and safety or to property).	No	The area contains no known qualities beyond those found on all public lands that warrant highlighting to satisfy either public or management concern over safety and public welfare.



Legend

ACEC Boundary

US Mineral Estate

Wilderness Study Area

Land Status

Bureau of Land Management

US Forest Service

Private/Other

Proposed Erskine Creek
Area of Critical Environmental Concern
Bureau of Land Management
Bakersfield Field Office

Map I 3.8-1

I.3.9 FREEBORN MOUNTAIN-HUBBARD PEAK

General Location: The proposed Freeborn Mountain-Hubbard Peak ACEC is located in south central San Luis Obispo County, 33 miles east of Santa Margarita, 40 miles west of Buttonwillow, and just west of the community of California Valley in the northern portion of the Carrizo Plain.

Public Surface Acreage: 6,986 acres
Federal Mineral Estate Acreage: 6,986 acres (0 acres Split Estate)
Other Land Owner Acreage: 0 acres
Total Proposed ACEC: 6,986 acres

Area Description:
The proposed Freeborn Mountain-Hubbard Peak ACEC includes public lands and federal mineral estate that was nominated through the public scoping process principally for its scenic values and vegetative communities. These peaks border the northwestern edge of the Carrizo Plain and stand 1,000 feet above the plain at 3,300 and 2,960 feet elevation respectively. They separate the Carrizo Plain from San Juan Creek and are visible from State Highway 58 for almost 20 miles as one traverses the plain. While these peaks are prominent in the middle-ground view for a considerable length of time, the La Panza Range is located as their backdrop into which they tend to blend.

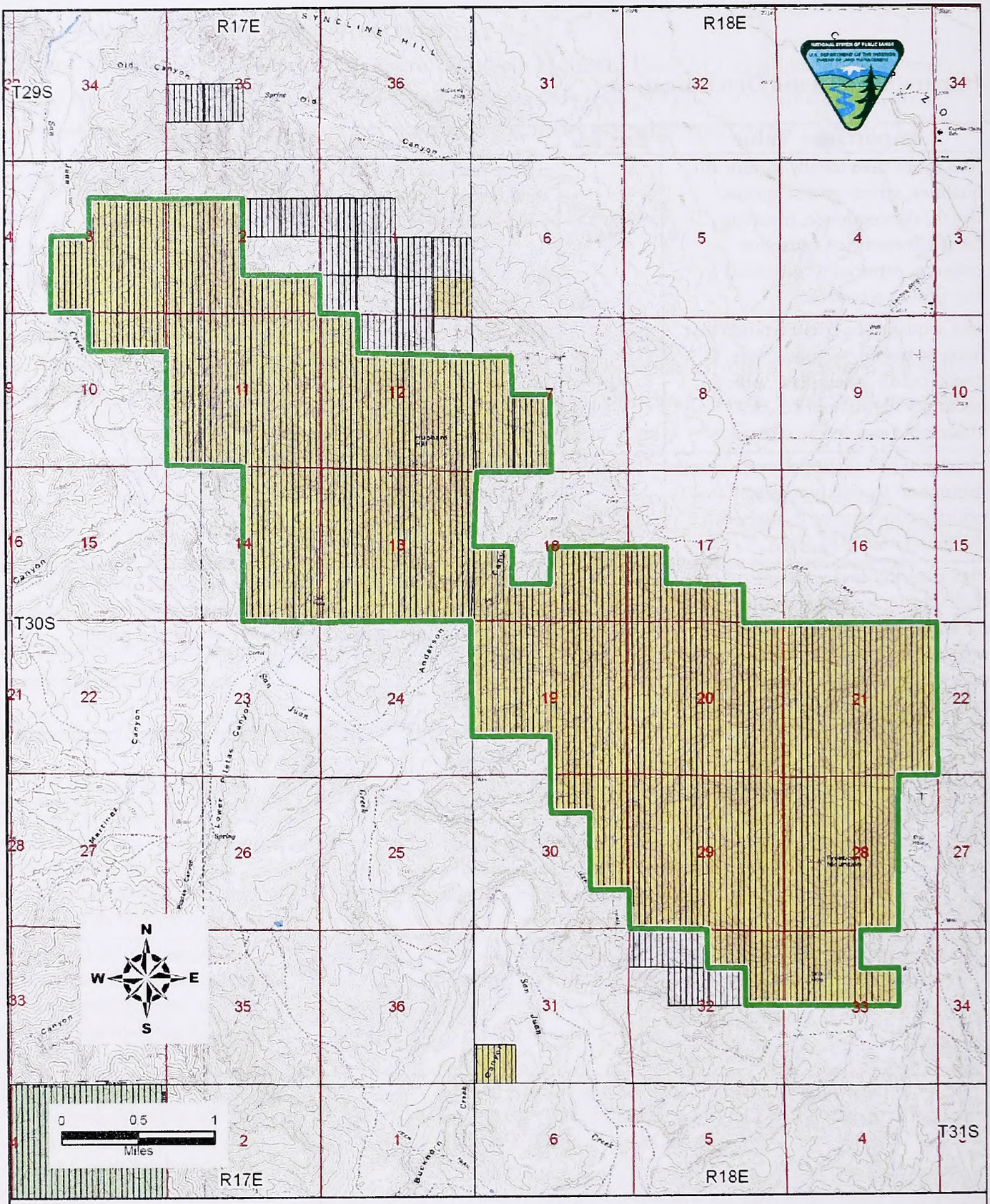
Vegetation in the proposed ACEC consists of mixed chaparral-blue oak woodlands that are common to the coastal mountain ranges. There are no known rare or unique plant species or communities in the area.

Relevance Criteria Determination:

Relevance Value	Present	Rationale for Determination
A significant historic, cultural, or scenic value (e.g., rare or sensitive archeological resources and religious or cultural resources important to Native Americans).	**No**	The peaks in the proposed ACEC are prominent in the middle-ground view and may have scenic values. Cultural values may be present within the area, however they are not deemed to be significant values contributing to the nomination of the ACEC.
A fish and wildlife resource (e.g., habitat for endangered, sensitive, or threatened species; or habitat essential for maintaining species diversity).	**No**	Fish and wildlife resource may be present within the area, however they are not deemed to be a factor contributing to the nomination of the ACEC.
A natural process or system (e.g., endangered, sensitive, or threatened plant species; rare, endemic, or relic plants or plant communities; or rare geological features).	**No**	Natural process and systems may be present within the area, however they are not deemed to be a factor contributing to the nomination of the ACEC.
Natural hazards (e.g., areas of avalanche, dangerous flooding, landslides, unstable soils, seismic activity, or dangerous cliffs).	**No**	There are no known natural hazards in the area that pose a threat greater than is found on all public lands.

Importance Criteria Determination:

Importance Value	Present	Rationale for Determination
Has more than locally significant qualities, which give it special worth, consequence, meaning, distinctiveness, or cause for concern, especially compared to any similar resource.	**No**	These peaks do not have more than locally significant qualities as they are similar to the adjacent Los Padres National Forest backdrop.
Has a quality or circumstance that make it fragile, sensitive, rare, irreplaceable, exemplary, unique, endangered, threatened, or vulnerable to adverse change.	**No**	The mixed chaparral-blue oak woodlands are not unique or exemplary when compared to other plant communities of the same type. The area is not considered to be a unique or rare geologic feature.
Has been recognized as warranting protection to satisfy national priority concerns or to carry out the mandates of FLPMA.	**No**	No national priority concerns are known in the area.
Has a quality that warrants highlighting to satisfy public or management concerns about safety and public welfare (e.g., poses a significant threat to human life and safety or to property).	**No**	The area contains no known qualities beyond those found on all public lands that warrant highlighting to satisfy either public or management concern over safety and public welfare.



Legend

ACEC Boundary

US Mineral Estate

Land Status

Bureau of Land Management

Private/Other

Proposed Freeborn Mountain - Hubbard Peak
Area of Critical Environmental Concern
Bureau of Land Management
Bakersfield Field Office

Map I 3.9-1

I.3.10 GRANITE CAVE

General Location: The proposed Granite Cave ACEC is in Kern County within the Kern River Valley on the northern slopes of the Piute Mountains overlooking the community of South Lake and adjacent to the Sequoia National Forest. .

Public Surface Acreage: 31 acres
Other Land Owner Acreage: 11 acres
Federal Mineral Estate Acreage: 42 acres (0 acres Split Estate)
Total Proposed ACEC: 42 acres

Area Description:
The proposed Granite Cave ACEC includes public lands and federal mineral estate principally nominated for its significant cultural resource and unique geologic feature. The area is characterized by Pinyon Pine Juniper Woodland at an elevation of 3,200 feet.

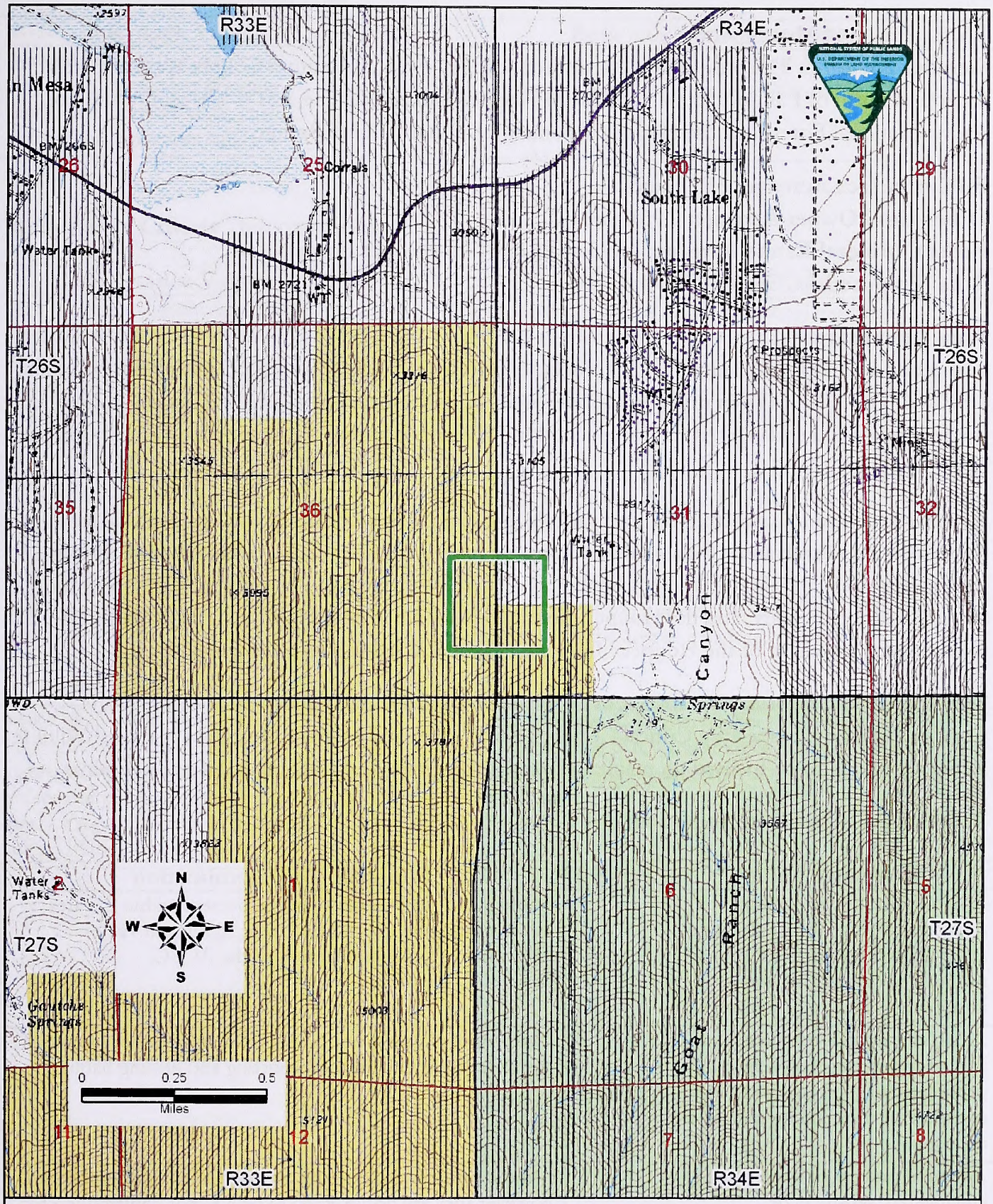
The proposed ACEC, its specific location withheld to protect cultural resources, contains one notable archaeological site associated with a unique cave feature.

Relevance Criteria Determination:

Relevance Value	Present	Rationale for Determination
A significant historic, cultural, or scenic value (e.g., rare or sensitive archeological resources and religious or cultural resources important to Native Americans).	**Yes**	The cave within the proposed ACEC is known to contain significant cultural resources and is of importance to contemporary Native Americans.
A fish and wildlife resource (e.g., habitat for endangered, sensitive, or threatened species; or habitat essential for maintaining species diversity).	**No**	Fish and wildlife resource may be present within the area, however they are not deemed to be a factor contributing to the nomination of the ACEC.
A natural process or system (e.g., endangered, sensitive, or threatened plant species; rare, endemic, or relic plants or plant communities; or rare geological features).	**Yes**	The cave itself is a rare geologic feature within the landscape.
Natural hazards (e.g., areas of avalanche, dangerous flooding, landslides, unstable soils, seismic activity, or dangerous cliffs).	**No**	There are no known natural hazards in the area that pose a threat greater than is found on all public lands.

Importance Criteria Determination:

Importance Value	Present	Rationale for Determination
Has more than locally significant qualities, which give it special worth, consequence, meaning, distinctiveness, or cause for concern, especially compared to any similar resource.	**Yes**	The ACEC contains an archaeological site of importance to contemporary Native Americans that is considered as an important location for traditional cultural practices. The geologic cave feature is unique to public lands within the region giving it distinctiveness over other geologic features.
Has a quality or circumstance that make it fragile, sensitive, rare, irreplaceable, exemplary, unique, endangered, threatened, or vulnerable to adverse change.	**Yes**	Cultural resources found within the ACEC are both fragile and irreplaceable examples of the prehistory of California.
Has been recognized as warranting protection to satisfy national priority concerns or to carry out the mandates of FLPMA.	**Yes**	Cultural resources within the area are likely eligible for the National Register of Historic Places.
Has a quality that warrants highlighting to satisfy public or management concerns about safety and public welfare (e.g., poses a significant threat to human life and safety or to property).	**No**	The area contains no known qualities beyond those found on all public lands that warrant highlighting to satisfy either public or management concern over safety and public welfare.


R33E
R34E
T26S
T27S
South Lake
Corrals
Water Tanks
Prospects
Canyon
Springs
Ranch
Goat
Gowlche Springs
N
S
E
W
0 0.25 0.5
Miles
Legend
ACEC Boundary
US Mineral Estate
Land Status
Bureau of Land Management
US Forest Service
Private/Other
Proposed Granite Cave
Area of Critical Environmental Concern
Bureau of Land Management
Bakersfield Field Office
Map I 3.10-1

I.3.11 HOPPER MOUNTAIN

General Location: The proposed Hopper Mountain ACEC is in Ventura County approximately five miles north of Fillmore in the foothills of Hopper Mountain. The area is adjacent to the Los Padres National Forest and the Hopper Mountain National Wildlife Refuge.

Public Surface Acreage: 2,027 acres
Other Land Owner Acreage: 2,951 acres
Federal Mineral Estate Acreage: 4,973 acres (2,947 acres Split Estate)
Total Proposed ACEC: 4,978 acres

Area Description:
The proposed Hopper Mountain ACEC includes private and federal lands, including both BLM and USFWS. The area has been principally nominated for its important roosting and nesting habitat for the federally listed endangered California condor. The area is within the Sespe-Piru Critical Condor Area.

Vegetation communities within the area include grassland, oak woodland, chaparral, coastal sage scrub, oak woodland, and riparian habitat. Located in steep, mountainous terrain with elevations ranging from 750 to 3,400 feet, the nomination is adjacent to the Los Padres National Forest, the Sespe Condor Sanctuary, and the Hopper Mountain National Wildlife Refuge. The proposed ACEC also contains a portion of the Hopper Mountain National Wildlife Refuge managed by the USFWS.

The April 1996 California Condor Recovery Plan recommends that management of the Sespe Condor Sanctuary, Sespe-Piru Critical Condor Habitat Area and Hopper Mountain National Wildlife Refuge continue to be focused on maintaining suitable nesting and foraging habitat for condors.

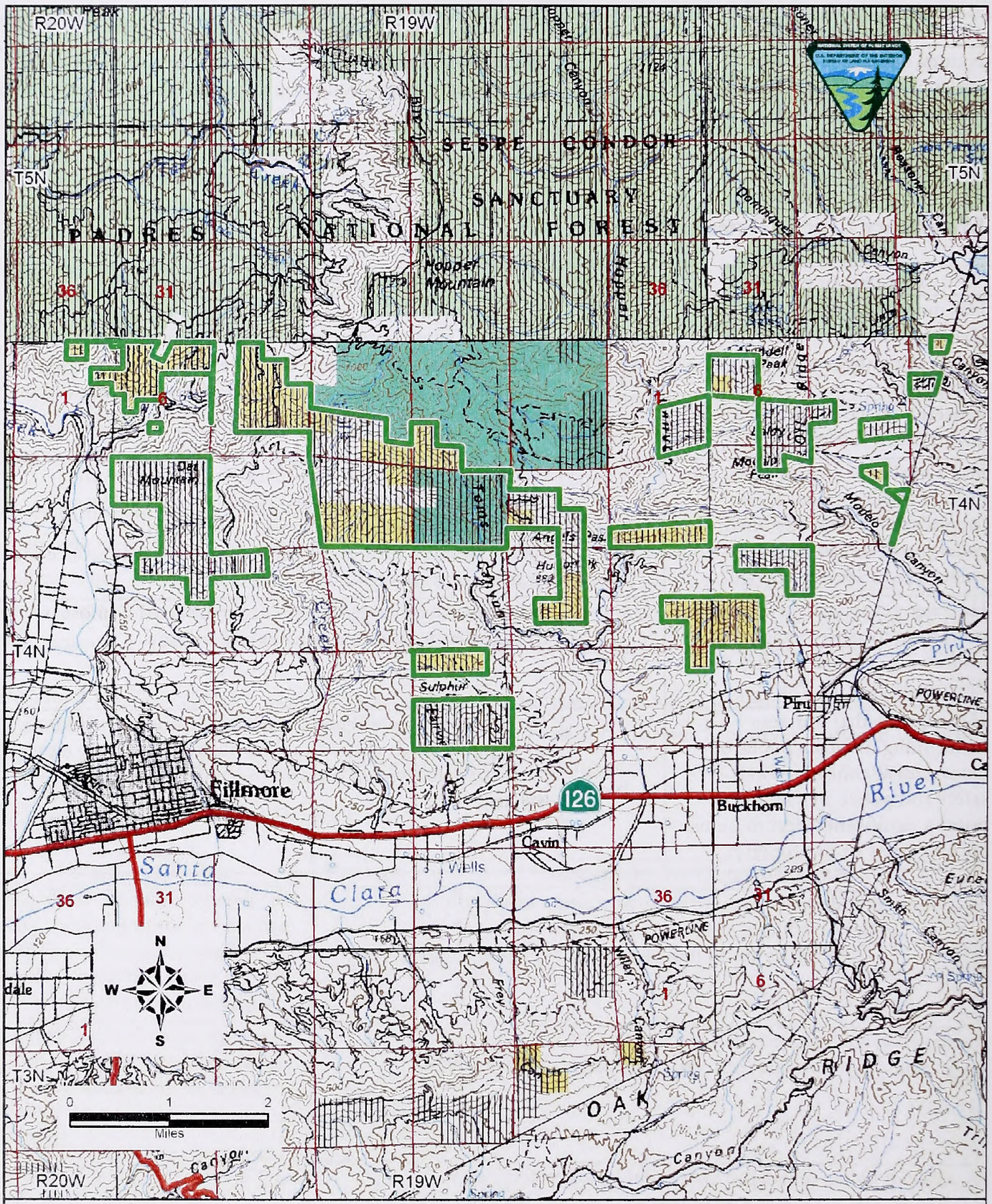
Relevance Criteria Determination:

Relevance Value	Present	Rationale for Determination
A significant historic, cultural, or scenic value (e.g., rare or sensitive archeological resources and religious or cultural resources important to Native Americans).	**No**	Cultural and scenic values may be present within the area, however they are not deemed to be significant values contributing to the nomination of the ACEC.
A fish and wildlife resource (e.g., habitat for endangered, sensitive, or threatened species; or habitat essential for maintaining species diversity).	**Yes**	The proposed area is important California condor (a species that is federally endangered) roosting and nesting habitat.
A natural process or system (e.g., endangered, sensitive, or threatened plant species; rare, endemic, or relic plants or plant communities; or rare geological features).	**No**	Natural process and systems may be present within the area, however they are not deemed to be a factor contributing to the nomination of the ACEC.

Relevance Value	Present	Rationale for Determination
Natural hazards (e.g., areas of avalanche, dangerous flooding, landslides, unstable soils, seismic activity, or dangerous cliffs).	No	There are no known natural hazards in the area that pose a threat greater than is found on all public lands.

Importance Criteria Determination:

Importance Value	Present	Rationale for Determination
Has more than locally significant qualities, which give it special worth, consequence, meaning, distinctiveness, or cause for concern, especially compared to any similar resource.	Yes	The proposed ACEC is adjacent to three important California condor areas: Sespe Condor Sanctuary, Hopper Mountain National Wildlife Refuge and Sespe-Piru Critical Condor Area and is considered to be the only area used by the southern California condor population for nesting.
Has a quality or circumstance that make it fragile, sensitive, rare, irreplaceable, exemplary, unique, endangered, threatened, or vulnerable to adverse change.	Yes	Nesting habitat has qualities that make it sensitive and vulnerable to adverse change. Noise and general human activity in the area due to recreation activities, communication sites, and oilfield operations may reduce the success for recovery of California condor.
Has been recognized as warranting protection to satisfy national priority concerns or to carry out the mandates of FLPMA.	Yes	The presence of habitat for the federally listed California condor elevates the area as a national priority.
Has a quality that warrants highlighting to satisfy public or management concerns about safety and public welfare (e.g., poses a significant threat to human life and safety or to property).	No	The area contains no known qualities beyond those found on all public lands that warrant highlighting to satisfy either public or management concern over safety and public welfare.


R20W
R19W
T5N
T4N
T3N
SESPE CONDOR SANCTUARY
PADRES NATIONAL FOREST
Hopper Mountain
Oat Mountain
Fillmore
Santa Clara
Sulphur
Piru
Buckhorn
Cavin
126
POWERLINE
River
OAK RIDGE
Canyon
36
31
1
6
N
W
E
S
0
1
2
Miles
Legend
ACEC Boundary
US Mineral Estate
Land Status
Bureau of Land Management
US Forest Service
US Fish and Wildlife Service
Private/Other
Proposed Hopper Mountain
Area of Critical Environmental Concern
Bureau of Land Management
Bakersfield Field Office
Map I 3.11-1

I.3.12 IRISH HILLS

General Location: The proposed Irish Hills ACEC is in San Luis Obispo Country approximately six miles southwest of the city of San Luis Obispo, and is adjacent to the Montana de Oro State Park.

Public Surface Acreage: 1,090 acres
Other Land Owner Acreage: 724 acres
Federal Mineral Estate Acreage: 1,654 acres (564 acres Split Estate)
Total Proposed ACEC: 1,814 acres

Area Description:
The proposed Irish Hills ACEC includes state private and federal land nominated principally for its rare vegetation types. Located on the western slopes of the Irish Hills encompassing portions of Diablo Canyon with elevations ranging from 600 to 1,400 feet, the nomination is adjacent to and contains a portion of the Montana de Oro State Park.

The primary vegetation is coast live oak series, Bishop Pine series, and various shrub and chaparral series including chamise-black sage, coyote brush, and whiteleaf chaparral in areas of serpentine soils. Bishop pine is a rare vegetation type, but plentiful in the Coon Creek watershed. Bishop pine is a closed-cone pine, dependent on fire for seed release and regeneration (Hoover 1970). The public lands in the proposed ACEC also include some of the largest oaks in San Luis Obispo County and manzanitas two feet in diameter and forty feet high. Three federally listed plants, *Arctostaphylos morroensis* (Morro manzanita), *Cirsium fontinale* var. *obispoense* (San Luis Obispo fountain thistle), and *Eriodictyon altissimum* (Indian Knob mountain balm), are known to occur west of the proposed ACEC and may occur within the proposed ACEC as well. Also present in the area are nine BLM California sensitive plants (*Agrostis hooveri*, *Arctostaphylos cruzensis*, *Arctostaphylos* osoensis, *Arctostaphylos pechoensis*, *Arctostaphylos tomentosa* subsp. *daciticola*, *Calochortus obispoensis*, *Castilleja densiflora* subsp. *obispoensis*, *Dudleya abramsii* subsp. *murina*, and *Fritillaria ojaiensis*) and an additional seven CNPS list 4 species.

The City of San Luis Obispo, The Nature Conservancy, the Land Conservancy of San Luis Obispo County, and California State Parks are currently engaged in increasing the size of Montana de Oro State Park, conserving additional acreage in the Irish Hills, and planning to develop a coastal trail across this landscape, which would most likely include public lands. The proposed ACEC would complement their efforts and assist in preserving an important section of central coastal habitat.

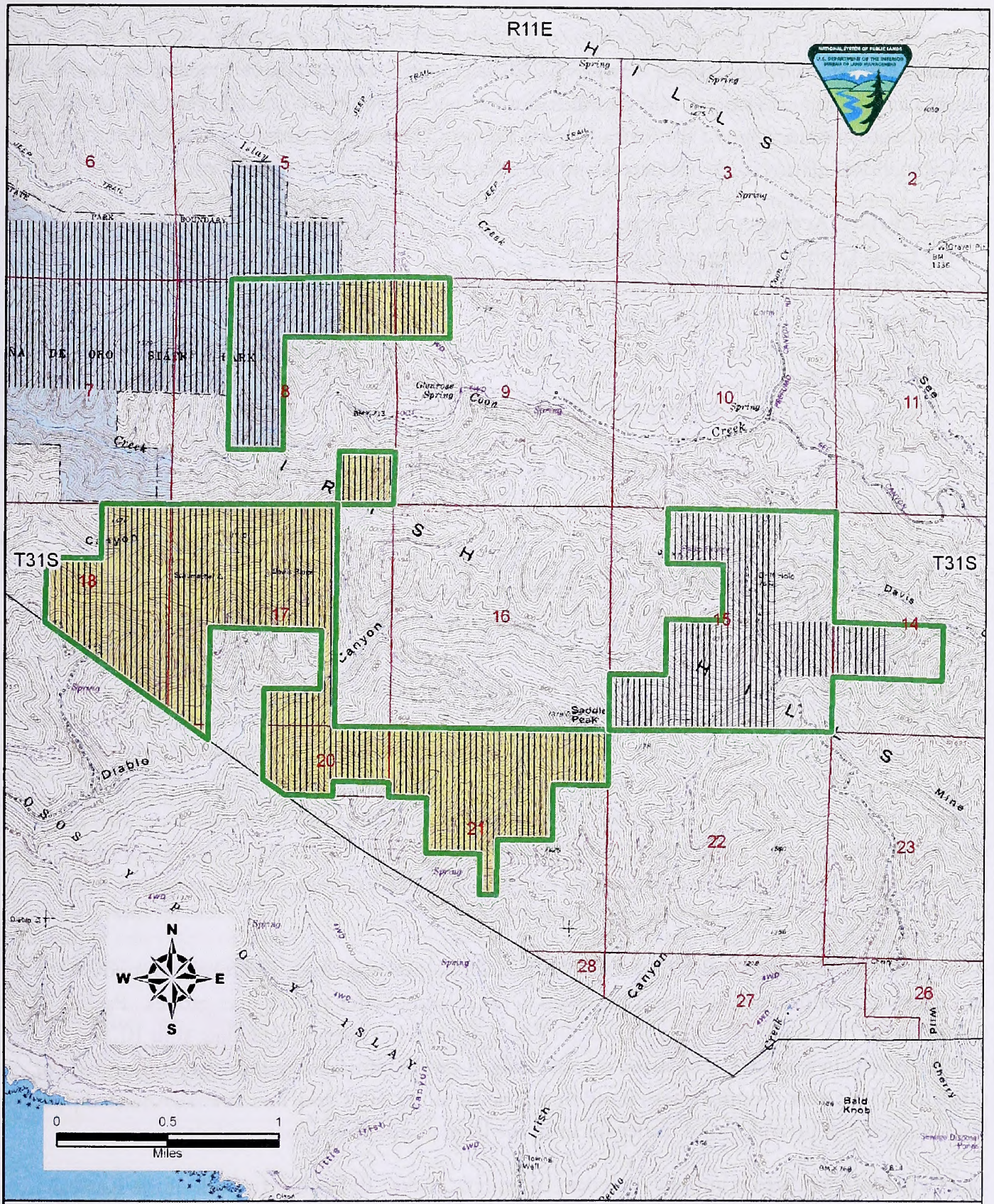
Although not contributing to the relevant criteria, the proposed Irish Hills ACEC also provides crucial corridor habitat for wide-ranging wildlife species, including mountain lions, black bears and grey foxes.

Relevance Criteria Determination:

Relevance Value	Present	Rationale for Determination
A significant historic, cultural, or scenic value (e.g., rare or sensitive archeological resources and religious or cultural resources important to Native Americans).	**No**	Cultural and scenic values may be present within the area, however they are not deemed to be significant values contributing to the nomination of the ACEC.
A fish and wildlife resource (e.g., habitat for endangered, sensitive, or threatened species; or habitat essential for maintaining species diversity).	**No**	Fish and wildlife resource may be present within the area, however they are not deemed to be a factor contributing to the nomination of the ACEC.
A natural process or system (e.g., endangered, sensitive, or threatened plant species; rare, endemic, or relic plants or plant communities; or rare geological features).	**Yes**	The area provides habitat for rare and endemic plant species and communities including three federally listed plant species as well as nine BLM sensitive plant species. The area also contains the rare vegetation type Bishop pine.
Natural hazards (e.g., areas of avalanche, dangerous flooding, landslides, unstable soils, seismic activity, or dangerous cliffs).	**No**	There are no known natural hazards in the area that pose a threat greater than is found on all public lands.

Importance Criteria Determination:

Importance Value	Present	Rationale for Determination
Has more than locally significant qualities, which give it special worth, consequence, meaning, distinctiveness, or cause for concern, especially compared to any similar resource.	**Yes**	This area contributes to conservation efforts by state and local governments to preserve adjacent natural areas from loss to development and urbanization.
Has a quality or circumstance that make it fragile, sensitive, rare, irreplaceable, exemplary, unique, endangered, threatened, or vulnerable to adverse change.	**Yes**	The numbers of rare plant species and the extent of their populations found within the ACEC are considered unique and exemplary.
Has been recognized as warranting protection to satisfy national priority concerns or to carry out the mandates of FLPMA.	**Yes**	These areas contain habitat and extant populations of federally listed plant species. Identification of these species as federally listed elevates the management of their habitats as a national priority.
Has a quality that warrants highlighting to satisfy public or management concerns about safety and public welfare (e.g., poses a significant threat to human life and safety or to property).	**No**	The area contains no known qualities beyond those found on all public lands that warrant highlighting to satisfy either public or management concern over safety and public welfare.


R11E
T31S
T31S
Legend
ACEC Boundary
US Mineral Estate
Land Status
Bureau of Land Management
State
Private/Other
Proposed Irish Hills
Area of Critical Environmental Concern
Bureau of Land Management
Bakersfield Field Office
Map I 3.12-1
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I.3.13 KAWEAH

General Location: The proposed Kaweah ACEC is comprised of two parcels located in northern Tulare County, five miles north and six miles east of the community of Three Rivers, within the foothills and western slope of the Sierra Nevada Range. These areas contain the Case Mountain, Milk Ranch Peak, and North Fork areas and are adjacent to Sequoia National Park.

Public Surface Acreage: 26,891 acres
Other Land Owner Acreage: 6,668 acres
Federal Mineral Estate Acreage: 26,440 acres (150 acres Split Estate)
Total Proposed ACEC: 33,559 acres

Area Description:
This proposed ACEC, nominated principally for its biological, geological and cultural resources, expands the existing Case Mountain ACEC to include the North Fork of the Kaweah River and surrounding lands. The area consists of private and federal land on the western slope of the Sierra Nevada Mountains ranging in elevation from 1,000 to 6,800 feet and is adjacent to Sequoia National Park.

Vegetation in the proposed ACEC ranges from oak woodlands in the lower elevations to conifer woodlands, including giant sequoia groves, in the higher elevations. Riparian vegetative communities are present along the North Fork of the Kaweah River, Salt Creek and its associated ponds. The mixed conifer stands consist of incense cedar, Jeffrey pine, ponderosa pine, sugar pine, white fir and California nutmeg. Giant sequoias grow in three separate groves located on public lands near the top of Case Mountain. Five BLM California sensitive plant species are present within the proposed ACEC: *Eriogonum nudum* var. *murinum*, *Mimulus norrisii*, *Brodiaea insignis*, *Calochortus westonii*, and *Ribes tularense*. The last three are found growing in the Case Mountain area, where several hundred acres of suitable habitat are present. Three CNPS list 4 plants also are present (*Mimulus inconspicuus*, *Nemophila parviflora* var. *quercifolia*, *Streptanthus farnsworthianus*, as well as one CNPS list 3 plant, *Calystegia malacophylla* var. *berryi*.

A number of special status animal species occur in the proposed ACEC. California spotted owls and pileated woodpeckers have been observed in the mixed conifer and sequoia groves. Pacific fisher has been documented along Salt Creek Road. Several bat species, including four BLM California sensitive species, long eared myotis, fringed myotis, small-footed myotis and spotted bat make use of the area. Southwestern pond turtles occur along Salt Creek and in the associated ponds. High numbers of juvenile pond turtles occur in the large ponds are the base of Salt Creek.

The Case Mountain area is entirely underlain by granitic rocks. In the North Fork of the Kaweah area, there are extensive pendants of metasedimentary rocks, including extensive outcrops of marble. These karst formations include caves and springs that provide habitat for various bats, rare plants, and specialized cave organisms.

The North Fork of the Kaweah contains the Advance Colony site, a part of the Kaweah Colony, a socialist utopian society formed in the 1880's. In 1884 a group of "utopian socialists" established the settlement of Arcady (or Haskell's bluff) in the vicinity of the present day community of Kaweah. In 1886 they established Advance, a construction camp along the North Fork of the Kaweah, to access timber lands about eight miles to the east. Road construction began about three miles to the north of Advance and terminated in untouched forests of giant sequoia and other conifers. After four years of hand-labor, the road was finished and a lumber mill erected. At this time Sequoia National Park was established and members of the colony were arrested for cutting timber in the Park. By 1892 the settlements were abandoned.

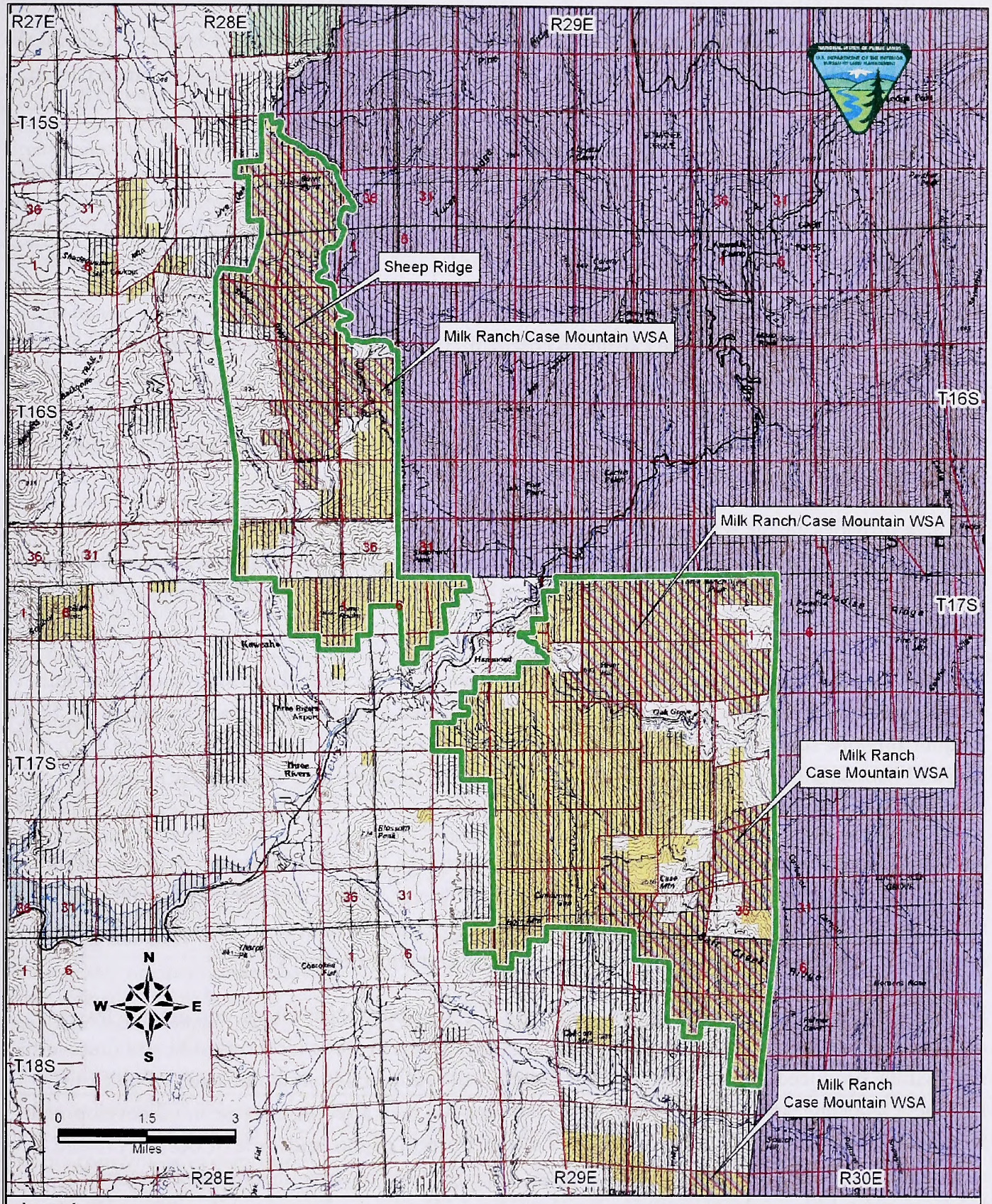
The proposed ACEC include the corridor of the North Fork of the Kaweah River, a river segment being studied for Wild and Scenic River suitability, and portions of the Sheep Ridge and Milk Ranch/Case Mountain Wilderness Study Areas (WSA). Both WSAs have been recommended as unsuitable for wilderness.

Relevance Criteria Determination:

Relevance Value	Present	Rationale for Determination
A significant historic, cultural, or scenic value (e.g., rare or sensitive archeological resources and religious or cultural resources important to Native Americans).	**Yes**	The North Fork Kaweah portion of the proposed ACEC contains historic site dating from the 1880s.
A fish and wildlife resource (e.g., habitat for endangered, sensitive, or threatened species; or habitat essential for maintaining species diversity).	**Yes**	The area provides habitat for numerous BLM sensitive animal species.
A natural process or system (e.g., endangered, sensitive, or threatened plant species; rare, endemic, or relic plants or plant communities; or rare geological features).	**Yes**	The Case Mountain portion of the proposed ACEC contains giant sequoia groves, a rare plant community, and five BLM California sensitive plant species. In addition, scattered in the area are a series of karst formations including caves and springs that are considered rare geologic features.
Natural hazards (e.g., areas of avalanche, dangerous flooding, landslides, unstable soils, seismic activity, or dangerous cliffs).	**No**	There are no known natural hazards in the area that pose a threat greater than is found on all public lands.

Importance Criteria Determination:

Importance Value	Present	Rationale for Determination
Has more than locally significant qualities, which give it special worth, consequence, meaning, distinctiveness, or cause for concern, especially compared to any similar resource.	**Yes**	The ACEC harbors a wide diversity of plants and animals, many of which are not found elsewhere on public lands in the Bakersfield FO and some of which are considered rare or sensitive species.
Has a quality or circumstance that make it fragile, sensitive, rare, irreplaceable, exemplary, unique, endangered, threatened, or vulnerable to adverse change.	**Yes**	The caves and karst spring are rare and fragile features that provide habitat for unique species identified as a BLM California sensitive species.
Has been recognized as warranting protection to satisfy national priority concerns or to carry out the mandates of FLPMA.	**No**	No national priority concerns are known in the area.
Has a quality that warrants highlighting to satisfy public or management concerns about safety and public welfare (e.g., poses a significant threat to human life and safety or to property).	**No**	The area contains no known qualities beyond those found on all public lands that warrant highlighting to satisfy either public or management concern over safety and public welfare.



Legend

- ACEC Boundary
- US Mineral Estate
- Wilderness Study Area

Land Status

- Bureau of Land Management
- US Forest Service
- National Park Service
- Private/Other

Proposed Kaweah
Area of Critical Environmental Concern
Bureau of Land Management
Bakersfield Field Office

Map I 3.13-1

I.3.14 KETTLEMAN HILLS

General Location: The proposed Kettleman Hills ACEC is located just west of Kettleman City in Kings County.

Public Surface Acreage: 6,726 acres
Other Land Owner Acreage: 22,148 acres
Federal Mineral Estate Acreage: 13,693 acres (6,969 acres Split Estate)
Total Proposed ACEC: 28,874 acres

Area Description:
The proposed ACEC expands the existing Kettleman Hills ACEC to include the Kettleman Middle Dome area was nominated principally for its important habitat for the San Joaquin suite of listed plant and animal species, in addition to its significant paleontological resources. The area consists of public land and federal mineral estate on the western edge of the San Joaquin Valley and foothills of the Inner South Coast Ranges and range in elevation from 300 to 1,100 feet.

The area provides a large scale remnant of arid foothills and valley habitats of western San Joaquin Valley that include grassland, alkali scrub, and oak woodland. In addition, Middle Dome includes an extant population of San Joaquin wooly-threads in a region where most populations have been extirpated.

The area contains occupied habitat for several San Joaquin Valley federal and state listed plant and animal species including the San Joaquin kit fox, blunt-nosed leopard lizard, giant kangaroo rat, San Joaquin antelope squirrel, and San Joaquin wooly-threads and has been identified as a core recovery area and habitat linkage along the west side of the Valley. In addition, a wide variety of raptor species also use the area for nesting, foraging and wintering.

Rock formations exposed in the Kettleman Hills range in age from Pleistocene to Eocene. In these formations invertebrate marine fossils are abundant; however, marine and terrestrial vertebrate fossils are also found. The fossils identified from the area include mastodon, beaver, peccary, horse, camel, deer, sea lion, seal, porpoise, shale, turtle, shark and cormorant.

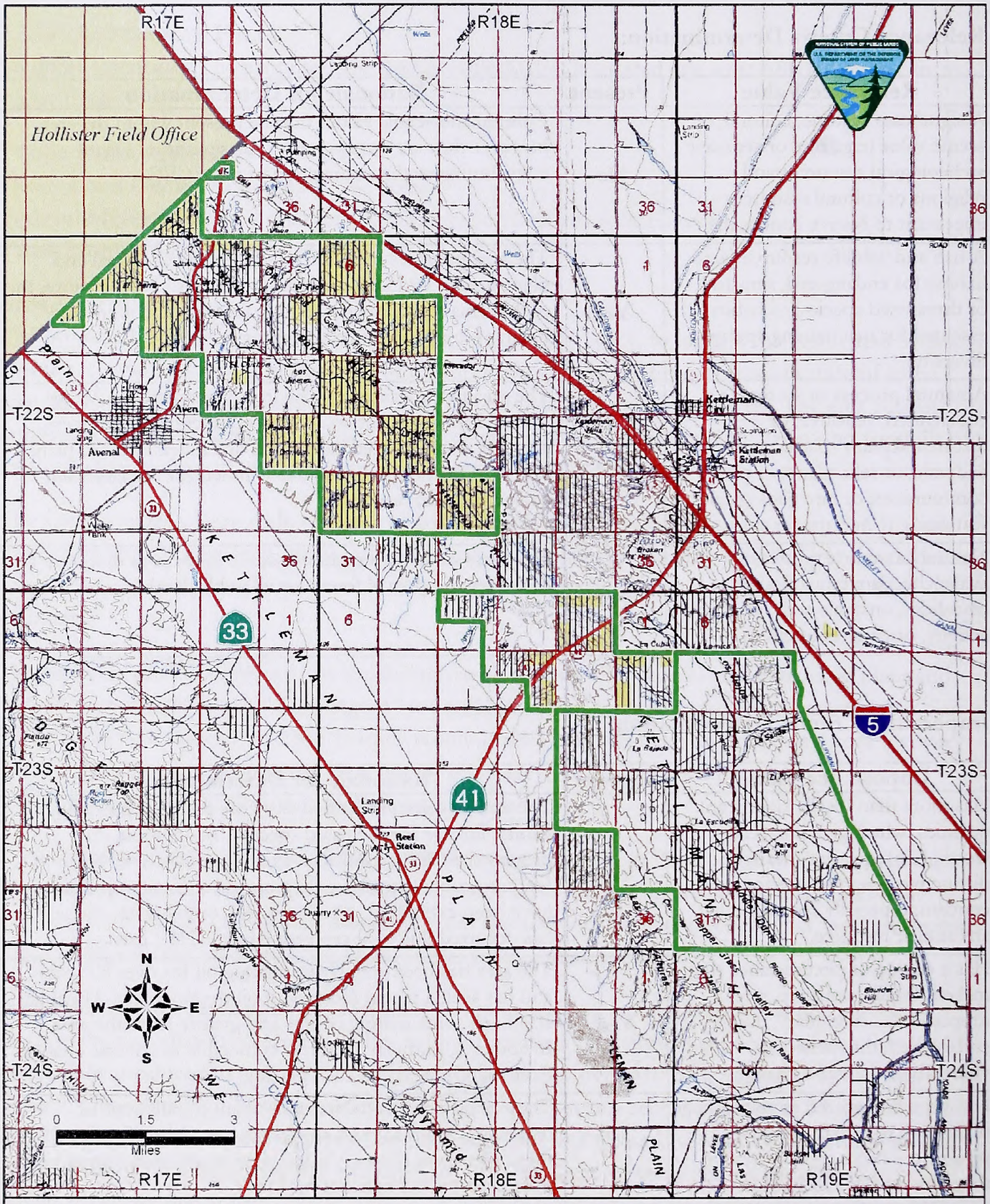
Numerous land use authorizations, including rights-of-way, oil and gas leases, and grazing leases occur in the area that have contributed to habitat degradation in some locations. Oil was first successfully produced here in 1928, and has since produced over 440 million barrels of oil from Eocene, Oligocene, and Miocene reservoirs. The area has seen a recent increase in oil development. Saltbush populations have disappeared across a large portion of the landscape or been depressed in some locations because of wildfire and livestock grazing. Loss of these shrubs has eliminated habitat for shrub-dependent species such as Le Conte's thrasher and sage sparrow. There has also been some mining of clay and gypsite from the area, but not from the fossiliferous sedimentary rocks. Furthermore, off-highway vehicle activity and hill climbs have increased in recent years where access has not been controlled.

Relevance Criteria Determination:

Relevance Value	Present	Rationale for Determination
A significant historic, cultural, or scenic value (e.g., rare or sensitive archeological resources and religious or cultural resources important to Native Americans).	No	Cultural and scenic values may be present within the area, however they are not deemed to be significant values contributing to the nomination of the ACEC.
A fish and wildlife resource (e.g., habitat for endangered, sensitive, or threatened species; or habitat essential for maintaining species diversity).	Yes	The area provides habitat for federally listed animal and plant species and includes habitat linkages. Furthermore, the rock formations provide nesting, foraging and wintering habitat for a wide variety of raptor species.
A natural process or system (e.g., endangered, sensitive, or threatened plant species; rare, endemic, or relic plants or plant communities; or rare geological features).	Yes	The area provides a large scale remnant where the Valley upland habitats maintain ecological function and process. There is also occupied habitat for one federally listed plant species. Furthermore, the area is noted for its significant paleontological resources.
Natural hazards (e.g., areas of avalanche, dangerous flooding, landslides, unstable soils, seismic activity, or dangerous cliffs).	No	There are no known natural hazards in the area that pose a threat greater than is found on all public lands.

Importance Criteria Determination:

Importance Value	Present	Rationale for Determination
Has more than locally significant qualities, which give it special worth, consequence, meaning, distinctiveness, or cause for concern, especially compared to any similar resource.	Yes	The area has been identified as a core recovery area and habitat linkage for the listed species. In addition, the proposed ACEC includes an extant population of San Joaquin wooly-threads in a region where most populations have been extirpated. Furthermore, some habitat damage has occurred due to sheep grazing and OHV use.
Has a quality or circumstance that make it fragile, sensitive, rare, irreplaceable, exemplary, unique, endangered, threatened, or vulnerable to adverse change.	Yes	The area has been actively producing oil for over 80 years and has seen a recent increase in oil development. There has also been some mining of clay and gypsite from the area. In addition, saltbush habitat is vulnerable to adverse change from wildfire and livestock grazing.
Has been recognized as warranting protection to satisfy national priority concerns or to carry out the mandates of FLPMA.	Yes	These areas contain habitat and extant populations of federally listed plant and animal species. Identification of these species as federally listed elevates the management of their habitats as a national priority.
Has a quality that warrants highlighting to satisfy public or management concerns about safety and public welfare (e.g., poses a significant threat to human life and safety or to property).	No	The area contains no known qualities beyond those found on all public lands that warrant highlighting to satisfy either public or management concern over safety and public welfare.



Legend

ACEC Boundary

US Mineral Estate

Land Status

Bureau of Land Management

Private/Other

Proposed Kettleman Hills Area of Critical Environmental Concern
Bureau of Land Management
Bakersfield Field Office

Map I 3.14-1

I.3.15 LOKERN-BUENA VISTA

General Location: The proposed Lokern-Buena Vista ACEC is located in western Kern County, eight miles southwest of the town of Buttonwillow, three miles north of the city of Taft. The area is east of the Temblor Mountain Range and north, west and southwest of the Elk Hills Range at the southwestern end of the San Joaquin Valley.

Public Surface Acreage: 11,352 acres
Other Land Owner Acreage: 58,122 acres
Federal Mineral Estate Acreage: 15,462 acres (4,113 acres Split Estate)
Total Proposed ACEC: 69,474 acres

Area Description:
The proposed ACEC expands the existing Lokern ACEC to include the Buena Vista Valley area was nominated principally for its important habitat for the San Joaquin suite of listed plant and animal species. The area consists of public land and federal mineral estate on the southwestern edge of the San Joaquin Valley with elevations ranging from 450 to 1,000 feet.

The area forms one of the largest relatively undisturbed remnants of the San Joaquin Valley habitats that are characterized by open grasslands, patches of saltbush scrub, and a dense growth of alkali sink scrub. In the 1990s, wildfires swept over a large portion of the area eliminating the saltbush stands; however, efforts have been started to restore scattered stands of saltbush.

The Lokern area contains most of the extant populations of the federally listed *Eremalche kernensis* (Kern mallow). The ACEC also provides habitat for the delisted *Eriastrum hooveri* (Hoover's woolly-star), six BLM California sensitive species (*Astragalus hornii* var. *hornii*, *Atriplex vallicola*, *Calochortus striatus*, *Lasthenia glabrata* subsp. *coulteri*, *Layia leucopappa*, and *Stylocline citroleum*) and four CNPS list 4 species (*Camissonia kernensis* subsp. *kernensis*. *Eriogonum gossypinum*, *Lasthenia ferrisiae*, and *Trichostema ovatum*).

The proposed ACEC sustains high population levels of the State listed San Joaquin antelope squirrel and the State and federally listed San Joaquin kit fox, blunt-nosed leopard lizard, giant kangaroo rat, and Tipton kangaroo rat. The area is within the western Kern County San Joaquin kit fox core population area. Long-term endangered species population monitoring study sites and several focused endangered species research projects have been located in the ACEC area. In addition, numerous BLM California sensitive animal species (short-nosed kangaroo rat, San Joaquin pocket mouse, long-billed curlew, mountain plover and ferruginous hawk) occur in the area.

The USFWS and CDFG identified the area as important for the recovery of federally listed species in the *Kern County Valley Floor HCP* that established the area as a reserve (red zone) to promote the conservation and recovery of endangered species. The area is managed so that surface disturbance is less than 10 percent of the surface area of individual public land parcels or 10 percent of adjoining public land parcels.

Numerous land use authorizations, including rights-of-way, oil and gas leases, and two grazing leases occur in the area that have contributed to habitat degradation in some locations. Several rights-of-ways for pipelines, transmission lines and roads occur in the area. There has also been recent interest in potential solar development due to the flat terrain and proximity to existing electric transmission lines. The proposed ACEC is in an area known to have high potential for the occurrence of oil and gas and there are current and long-existing oil and gas operations. In some sections containing long-existing oil field development, habitat disturbance exceeds the 10 percent objective for "red zone" reserves. Continued oil and gas exploration and development is expected in the area and large scale geophysical exploration surveys have been proposed.

Finally, the area is subject to unauthorized use, theft, vandalism, and trespass with household dumping occurring on a regular basis.

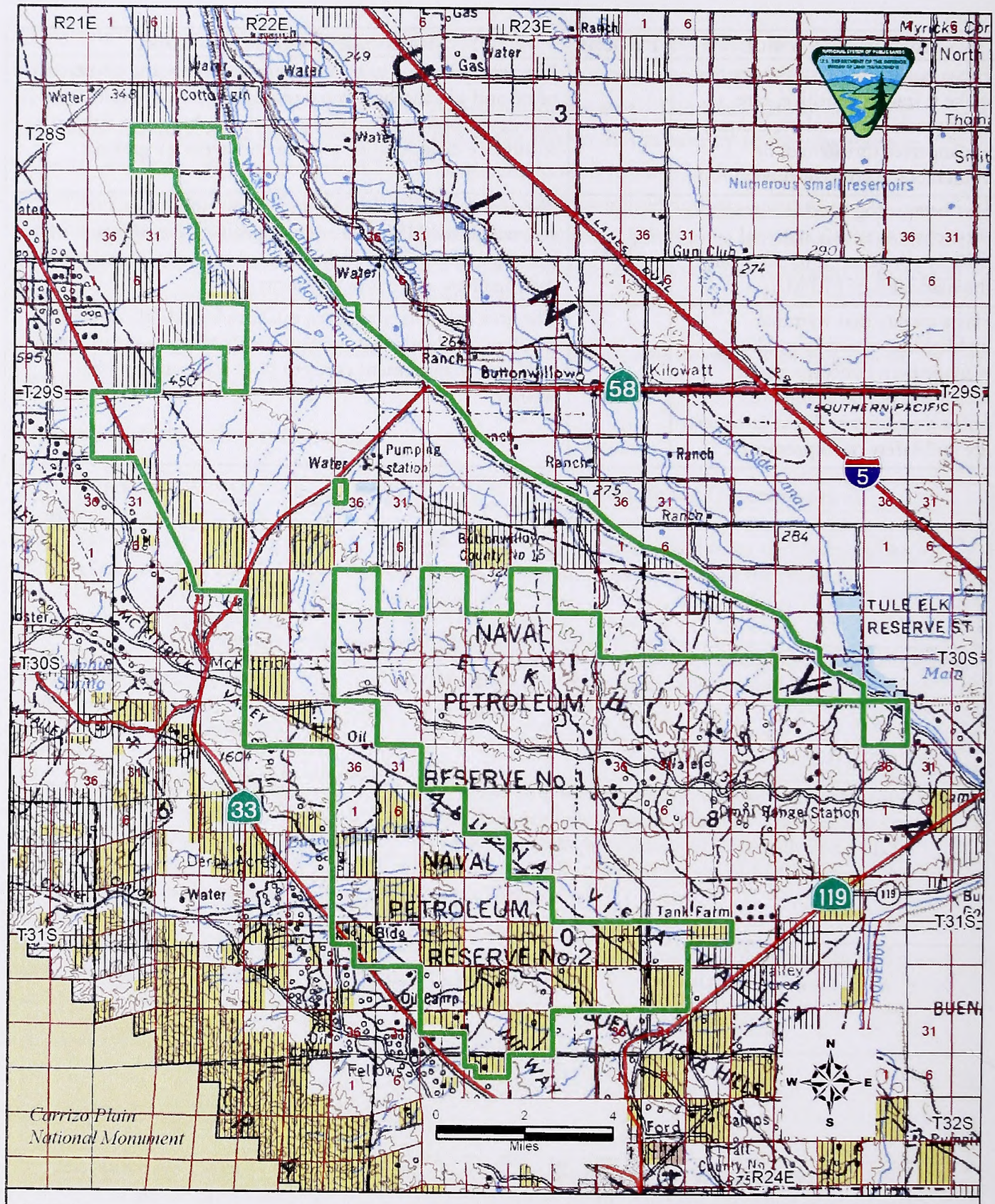
Relevance Criteria Determination:

Relevance Value	Present	Rationale for Determination
A significant historic, cultural, or scenic value (e.g., rare or sensitive archeological resources and religious or cultural resources important to Native Americans).	**No**	Cultural and scenic values may be present within the area, however they are not deemed to be significant values contributing to the nomination of the ACEC.
A fish and wildlife resource (e.g., habitat for endangered, sensitive, or threatened species; or habitat essential for maintaining species diversity).	**Yes**	The area provides habitat for federally listed animal species, numerous sensitive animal species, and includes habitat linkages.
A natural process or system (e.g., endangered, sensitive, or threatened plant species; rare, endemic, or relic plants or plant communities; or rare geological features).	**Yes**	The area provides large scale, undeveloped remnants of the San Joaquin Valley natural habitats. The area also contains the most extant populations of a federally listed plant species, as well as habitat for six BLM California sensitive plant species.
Natural hazards (e.g., areas of avalanche, dangerous flooding, landslides, unstable soils, seismic activity, or dangerous cliffs).	**No**	There are no known natural hazards in the area that pose a threat greater than is found on all public lands.

Importance Criteria Determination:

Importance Value	Present	Rationale for Determination
Has more than locally significant qualities, which give it special worth, consequence, meaning, distinctiveness, or cause for concern, especially compared to any similar resource.	**Yes**	This proposed ACEC has been identified as a "reserve" management zone to promote the conservation and recovery of federally listed species. In addition, the area includes the most extant populations of the federally listed plant Kern Mallow. Furthermore, habitat damage has occurred due to unauthorized use, vandalism, and trespass.

Importance Value	Present	Rationale for Determination
Has a quality or circumstance that make it fragile, sensitive, rare, irreplaceable, exemplary, unique, endangered, threatened, or vulnerable to adverse change.	**Yes**	The area is known to have high potential for the occurrence of oil and gas and has seen a recent increase in exploration and development. In addition, saltbush habitat is vulnerable to adverse change from wildfire and livestock grazing.
Has been recognized as warranting protection to satisfy national priority concerns or to carry out the mandates of FLPMA.	**Yes**	These areas contain habitat and extant populations of federally listed plant and animal species. Identification of these species as federally listed elevates the management of their habitats as a national priority.
Has a quality that warrants highlighting to satisfy public or management concerns about safety and public welfare (e.g., poses a significant threat to human life and safety or to property).	**No**	The area contains no known qualities beyond those found on all public lands that warrant highlighting to satisfy either public or management concern over safety and public welfare.



Legend

ACEC Boundary

US Mineral Estate

Land Status

Bureau of Land Management

Other Federal, Local Govn't

State

Private/Other

Proposed Lokern-Buena Vista Hills Area of Critical Environmental Concern Bureau of Land Management Bakersfield Field Office

Map I 3.15-1

I.3.16 Los Osos

General Location: The proposed Los Osos ACEC is located in San Luis Obispo County within the town of Los Osos; it is contiguous with Morro Bay State Park and comprises a portion of the "greenbelt" connecting the area to Montana de Oro State Park.

Public Surface Acreage: 5 acres
Other Land Owner Acreage: 27 acres
Federal Mineral Estate Acreage: 0 acres (0 acres Split Estate)
Total Proposed ACEC: 32 acres

Area Description:
This proposed ACEC, nominated principally for its important cultural resources, unique and diverse plant communities and wildlife habitat, consists entirely of public land. The area is a stabilized sand dune system, located between the Baywood Park area of Los Osos and Morro Bay State Park.

The proposed ACEC contains portions of two archaeological sites, which consist of large shell midden and occupational deposits, and have the potential to reveal important information about the Obispeno Chumash culture – a people who relied heavily on coastal resources for their subsistence. These sites display qualities that indicate they are eligible for inclusion to the National Register of Historic Places. It should be noted that many local archaeological sites have been lost due to urbanization and residential development.

The proposed Los Osos ACEC consists of a stabilized dune system with robust examples of coastal scrub, coastal chaparral, and pygmy oak woodland composed of *Quercus agrifolia* (coast live oak), all considered sensitive habitats in the California Natural Diversity Database system. Vegetation types present include black sage series, California sagebrush series, mixed sage series, woollyleaf manzanita series, and coast live oak series (Sawyer and Keeler-Wolf 1995). There are also a number of lichens and mossess associated with the shrub vegetation. Populations of the federally-threatened *Arctostaphylos morroensis* (Morro manzanita) also occur in the proposed ACEC. Other notable rare plants present include *Erysimum capitatum* ssp. *lompocensis* (San Luis Obispo wallflower) and *Prunus fasciculata* var. *punctata* (sand almond). There is suitable habitat, but no observations for two BLM sensitive species: *Arctostaphylos cruzensis* (Arroyo de la Cruz manzanita) and *Sulcaria isidiifera* (splitting yarn lichen).

The proposed ACEC sustains populations of the federally-endangered Morro shoulderband snail and is designated snail critical habitat (USFWS 2009). It is also within the historic habitat for the endangered, and possibly extinct, Morro bay kangaroo rat. In addition, coast horned lizard, a Federal species of concern, has been identified in the proposed ACEC.

The Los Osos parcel was acquired in 2001 to serve as a catalyst among local, regional, state, and federal conservation efforts to initiate land conservation to conserve and recover these species and to preserve the unique coastal vegetation.

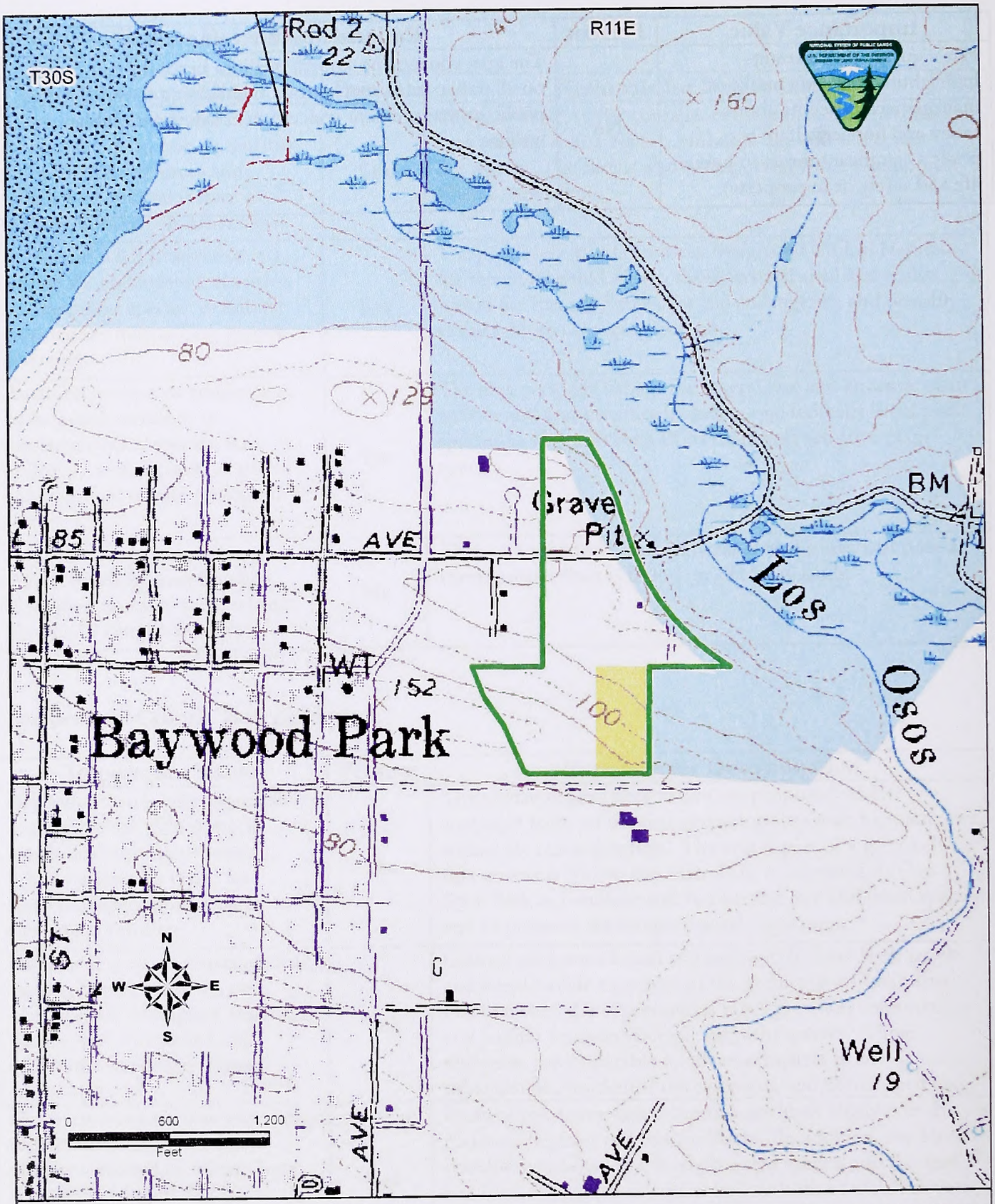
Relevance Criteria Determination:

Relevance Value	Present	Rationale for Determination
A significant historic, cultural, or scenic value (e.g., rare or sensitive archeological resources and religious or cultural resources important to Native Americans).	**Yes**	The proposed ACEC contains two significant archaeological sites relating to the Native American use and settlement of the region. The area is also of importance to contemporary Native Americans.
A fish and wildlife resource (e.g., habitat for endangered, sensitive, or threatened species; or habitat essential for maintaining species diversity).	**Yes**	The proposed ACEC contains designated Critical Habitat for the endangered Morro shoulderband snail and is also within the historic habitat for the endangered, and possibly extinct, Morro bay kangaroo rat.
A natural process or system (e.g., endangered, sensitive, or threatened plant species; rare, endemic, or relic plants or plant communities; or rare geological features).	**Yes**	The area provides habitat for several rare and endemic plant species and communities including one federally listed plant species as well as several BLM California sensitive plant species.
Natural hazards (e.g., areas of avalanche, dangerous flooding, landslides, unstable soils, seismic activity, or dangerous cliffs).	**No**	There are no known natural hazards in the area that pose a threat greater than is found on all public lands.

Importance Criteria Determination:

Importance Value	Present	Rationale for Determination
Has more than locally significant qualities, which give it special worth, consequence, meaning, distinctiveness, or cause for concern, especially compared to any similar resource.	**Yes**	The archaeological sites within the proposed ACEC represent some of the few remaining sites with high integrity within the cultural region. The area is part of a greenbelt that connects Morro Bay State Park to Montana de Oro State Park to conserve and recover the rare and listed species and to preserve the unique coastal vegetation.
Has a quality or circumstance that make it fragile, sensitive, rare, irreplaceable, exemplary, unique, endangered, threatened, or vulnerable to adverse change.	**Yes**	Cultural resources found within the ACEC are both fragile and irreplaceable examples of the prehistory of California. Furthermore, the area contains rare vegetation communities and habitat for listed animal and plant species. These resources are vulnerable to adverse impacts from urbanization, residential development, and unmanaged use.
Has been recognized as warranting protection to satisfy national priority concerns or to carry out the mandates of FLPMA.	**Yes**	Cultural resources within the area are likely eligible for the National Register of Historic Places. In addition, the Morro shoulderband snail is a federally listed species and the area has been designated as critical habitat both of which elevate the area as a national priority. Furthermore, the area provides habitat for other federally listed species.

Importance Value	Present	Rationale for Determination
Has a quality that warrants highlighting to satisfy public or management concerns about safety and public welfare (e.g., poses a significant threat to human life and safety or to property).	No	The area contains no known qualities beyond those found on all public lands that warrant highlighting to satisfy either public or management concern over safety and public welfare.



Legend

ACEC Boundary

US Mineral Estate

Land Status

Bureau of Land Management

State

Private/Other

Proposed LosOsos
Area of Critical Environmental Concern
Bureau of Land Management
Bakersfield Field Office

Map I 3.16-1

I.3.17 PIUTE CYPRESS

General Location: The proposed Piute Cypress ACEC is located in northeastern Kern County, about two miles south of the town of Bodfish, within the Kern River Valley. The area is adjacent to Sequoia National Forest Piute Cypress Botanical Area and within the Monache-Walker Pass National Cooperative Land and Wildlife Management Area (established January 26, 1962, by Public Land Order 2594).

Public Surface Acreage: 2,305 acres
Other Land Owner Acreage: 239 acres
Federal Mineral Estate Acreage: 2,217 acres (212 acres Split Estate)
Total Proposed ACEC: 2,544 acres

Area Description:
The proposed ACEC, nominated principally for its significant occurrence of the rare, endemic, and BLM California sensitive *Hesperocyparis nevadensis* (Piute Cypress), expands the existing Piute Cypress ACEC in the Piute Mountains to include two parcels on Hobo Ridge on the northeast slope of Breckenridge Mountain. The area includes public lands and federal mineral estate in the Kern River Valley region of the Sierra Nevada Mountains with elevations ranging from 3,700 to 5,000 feet.

The existing Piute Cypress ACEC was designated as a BLM Natural Area under Public Land Order 3530 on January 29, 1965; then designated as an ACEC in the 1997 Caliente RMP. The area also falls within the Monache-Walker Pass NCLWMA, which is cooperatively managed with the California Department of Fish and Game under current public land laws. Approximately 440 acres fall within the Piute Cypress Wilderness Study Area (CA-010-046) that was recommended as unsuitable because of high potential for development of locatable mineral resources, the need for continued execution of fire management plans, adjacent community development, and continuance of the Monache-Walker Pass NCLWMA.

A variety of rare and endemic plants is found within the Bodfish Piute Cypress Grove; this 700-acre grove extends south of the proposed ACEC onto the Sequoia National Forest where it is managed as a Botanical Area. The rare Piute Cypress is only known from 13 small groves around Lake Isabella in Kern and Tulare counties in the southern Sierra Nevada. The Bodfish grove is the premier location of the known Piute cypress groves and the largest and oldest colony. Several other BLM sensitive plant species including *Delphinium purpusii*, *Navarretia setiloba*, *Streptanthus cordatus* var. *piutensis*, *Streptanthus cordatus* var. *piutensis* is known only from an extensive colony at the north end of the Piute Mountains occupying much the same area as the Bodfish Piute Cypress grove. All known populations of *Streptanthus cordatus* var. *piutensis* are either inside the Piute Cypress ACEC or within one mile of the ACEC boundary. *Navarretia setiloba*, is known from fewer than ten occurances, including one at the base of the Piute Mountains. Other rare plants known from the area include two southern Sierra endemics on CNPS list 4: *Microseris sylvatica* and *Pentachaeta fragilis*.

Geology of the proposed ACEC is characterized by pre-Cretaceous metasedimentary rocks which have been intruded by Cretaceous mafic rocks. The mafic rocks consist of olivine gabbro, gabbro,

anorthositic gabbro, and dunite which is in part serpentinized. At the contact of these units just south of the ACEC, is located the Tripoli tungsten mine. As this contact zone crosses the ACEC, there is moderate potential for tungsten and associated locatable minerals. The area also has moderate potential for geothermal resources.

Although the Piute cypress is dependent upon fire for regeneration, a devastating crown-fire could obliterate the grove entirely. In 1921, approximately 200 acres in the Bodfish grove were burned by a crown fire; yet over the past 80 plus years the trees have re-grown up to 20 feet tall. In 2010, approximately 150 acres of the USFS portion of the Bodfish grove and 36 acres of the groves on Hobo Ridge burned with lethal intensity. The Bodfish grove continues to be susceptible to devastating wildland fires due to its proximity to the town of Bodfish.

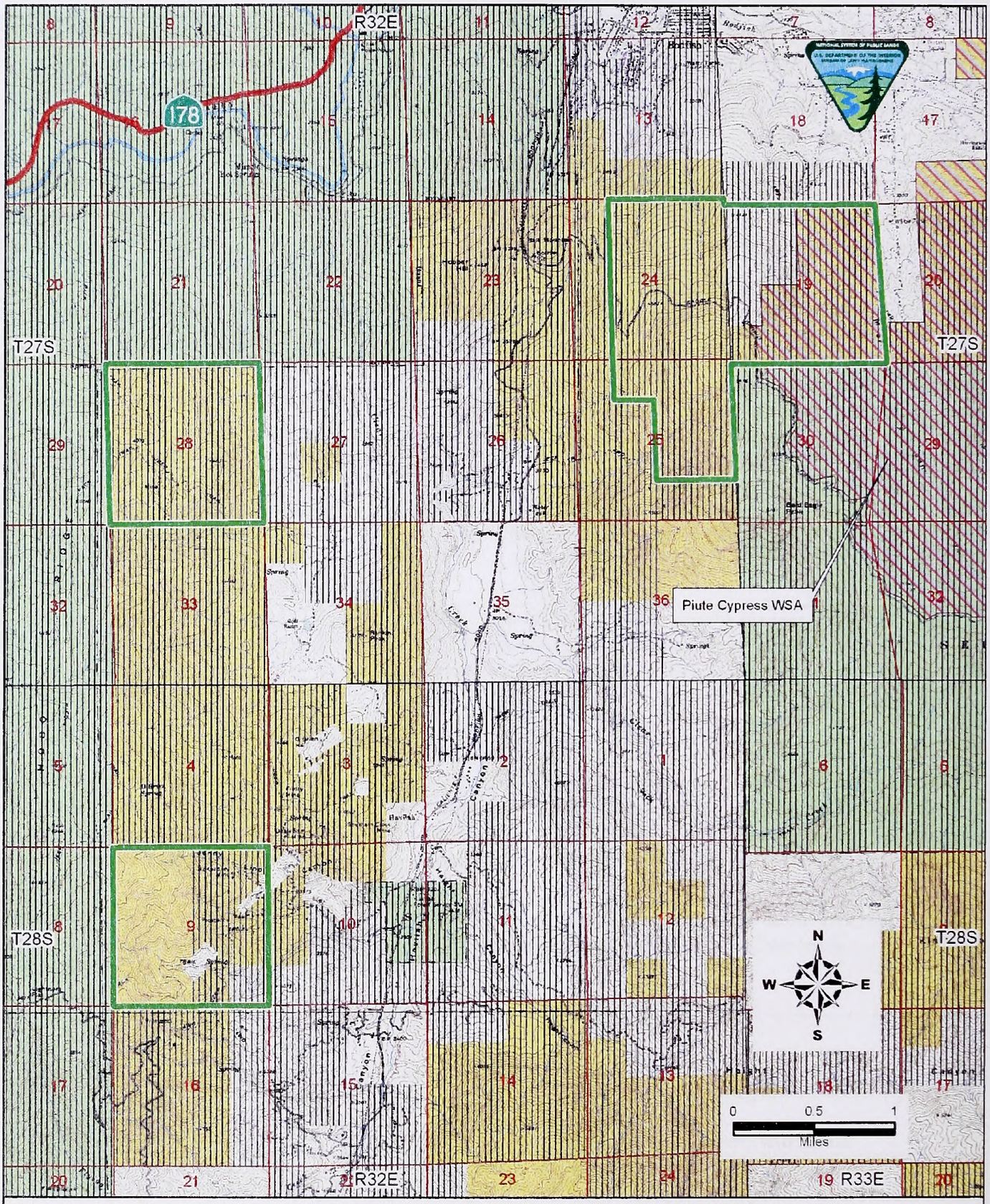
Relevance Criteria Determination:

Relevance Value	Present	Rationale for Determination
A significant historic, cultural, or scenic value (e.g., rare or sensitive archeological resources and religious or cultural resources important to Native Americans).	**No**	Cultural and scenic values may be present within the area, however they are not deemed to be significant values contributing to the nomination of the ACEC.
A fish and wildlife resource (e.g., habitat for endangered, sensitive, or threatened species; or habitat essential for maintaining species diversity).	**No**	Fish and wildlife resource may be present within the area, however they are not deemed to be a factor contributing to the nomination of the ACEC.
A natural process or system (e.g., endangered, sensitive, or threatened plant species; rare, endemic, or relic plants or plant communities; or rare geological features).	**Yes**	The proposed ACEC contains habitat for and extant populations of Piute cypress, a plant species recognized by the CNPS as rare, threatened or endangered. Furthermore a number of other BLM sensitive plant species are known to occur within the cypress groves.
Natural hazards (e.g., areas of avalanche, dangerous flooding, landslides, unstable soils, seismic activity, or dangerous cliffs).	**No**	There are no known natural hazards in the area that pose a threat greater than is found on all public lands.

Importance Criteria Determination:

Importance Value	Present	Rationale for Determination
Has more than locally significant qualities, which give it special worth, consequence, meaning, distinctiveness, or cause for concern, especially compared to any similar resource.	**Yes**	The area is the type locality (location from which the species was first described) for the Piute cypress – a rare and endemic tree species known only from 13 small groves around Lake Isabella.

Importance Value	Present	Rationale for Determination
Has a quality or circumstance that make it fragile, sensitive, rare, irreplaceable, exemplary, unique, endangered, threatened, or vulnerable to adverse change.	**Yes**	The area is the premier location of the known Piute cypress groves and the largest and oldest colony comprising 50 percent of the total known range of the species. Several other BLM California sensitive plant species are found within or near the proposed ACEC.
Has been recognized as warranting protection to satisfy national priority concerns or to carry out the mandates of FLPMA.	**No**	No national priority concerns are known in the area.
Has a quality that warrants highlighting to satisfy public or management concerns about safety and public welfare (e.g., poses a significant threat to human life and safety or to property).	**No**	The area contains no known qualities beyond those found on all public lands that warrant highlighting to satisfy either public or management concern over safety and public welfare.


R32E
178
T27S
T28S
Piute Cypress WSA
N
W
E
S
0
0.5
1
Miles
R33E
Legend
ACEC Boundary
US Mineral Estate
Land Status
Bureau of Land Management
US Forest Service
Private/Other
Proposed Piute Cypress
Area of Critical Environmental Concern
Bureau of Land Management
Bakersfield Field Office
Map I 3.17-1

I.3.18 RUSTY PEAK

General Location: The proposed Rusty Peak area is located in western San Luis Obispo County, approximately eight miles west of Atascadero, and six miles north of Morro Bay in the Santa Lucia Mountain Range.

Public Surface Acreage: 946 acres
Other Land Owner Acreage: 1,438 acres
Federal Mineral Estate Acreage: 1,604 acres (658 acres Split Estate)
Total Proposed ACEC: 2,383 acres

Area Description:
The proposed Rusty Peak ACEC includes public land and federal mineral estate identified principally for its rare vegetation types. Most of Rusty Peak is underlain by Jurassic basalt flows, however the southwest portion of the area consists of serpentinite, which gives rise to serpentine soils that support endemic vegetation communities and species. Elevations in the proposed ACEC range from 600 to 1500 feet.

Vegetative communities consist of serpentine chaparral, coast live oak woodland, and valley and foothill grassland (Holland 1986). Eight rare serpentine endemics that are also BLM California sensitive species are present in the surrounding Coast Range. *Dudleya abramsii* ssp. *bettinae* is known to occur within the ACEC and habitat is present for *Arctostaphylos pilosula*, *Carex obispoensis*, *Chorizanthe breweri*, *Fritillaria viridea*, *Monardella palmeri*, *Sidalcea hickmanii* subsp. *anomala*, and *Streptanthus albidus* subsp. *peramoenus*. Three CNPS list 4 plants are also possible: *Arctostaphylos obispoensis*, *Chorizanthe palmeri*, and *Ribes sericeum*.

Small amounts of chromite were recovered at the Middlemast Ranch Mine and the Jitney Mine, however there is low to moderate potential for the occurrence of additional chromite. In addition, there is a copper prospect known as the Prodigal Son Mine, but the potential for economic deposits of copper is extremely low. There are no oil and gas leases or mining claims and no land use authorizations within the proposed ACEC.

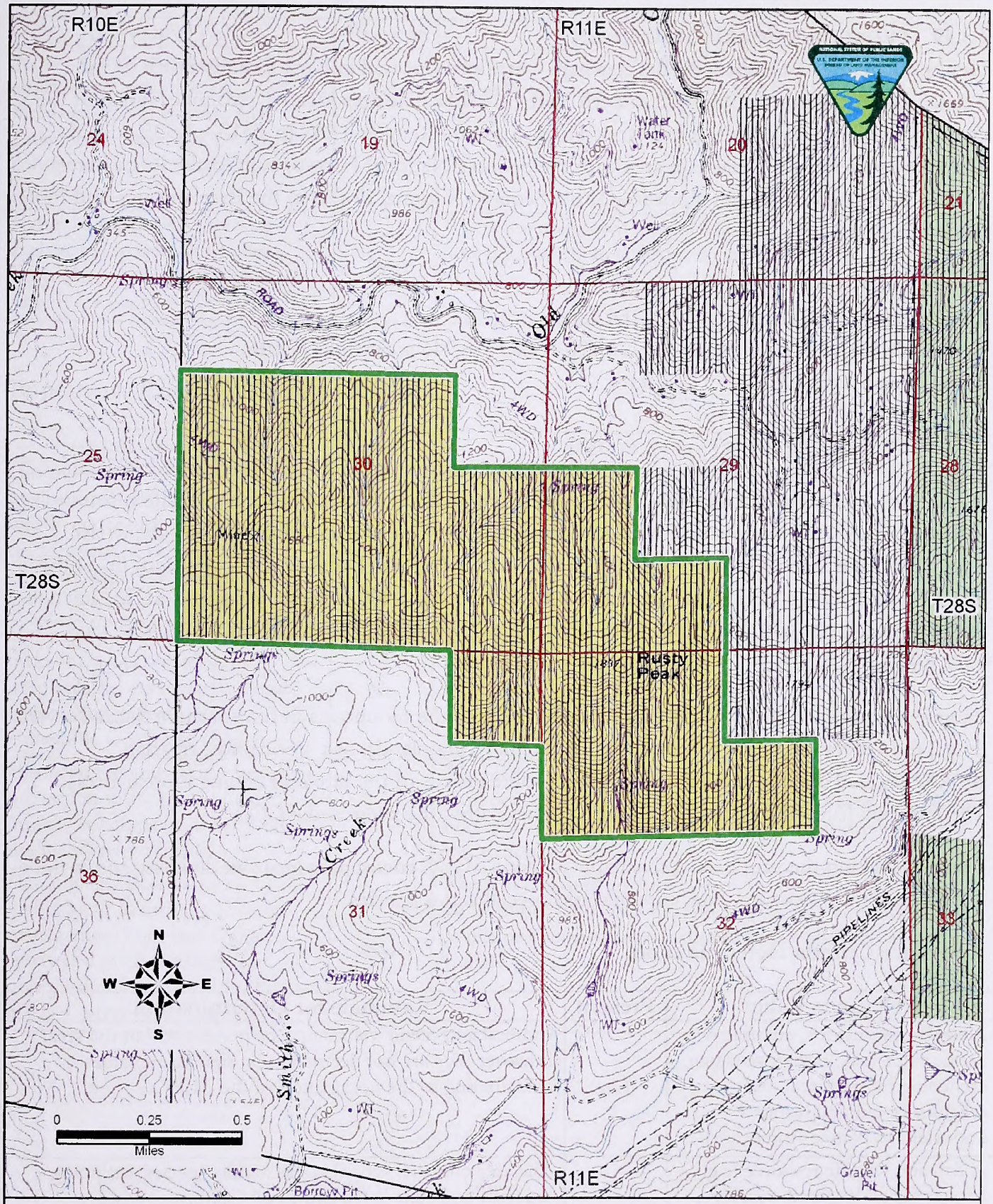
Relevance Criteria Determination:

Relevance Value	Present	Rationale for Determination
A significant historic, cultural, or scenic value (e.g., rare or sensitive archeological resources and religious or cultural resources important to Native Americans).	No	Cultural and scenic values may be present within the area, however they are not deemed to be significant values contributing to the nomination of the ACEC.
A fish and wildlife resource (e.g., habitat for endangered, sensitive, or threatened species; or habitat essential for maintaining species diversity).	No	Fish and wildlife resource may be present within the area, however they are not deemed to be a factor contributing to the nomination of the ACEC.

Relevance Value	Present	Rationale for Determination
A natural process or system (e.g., endangered, sensitive, or threatened plant species; rare, endemic, or relic plants or plant communities; or rare geological features).	**Yes**	The proposed AECE contains a number of rare plant species endemic to serpentine soils found in the area.
Natural hazards (e.g., areas of avalanche, dangerous flooding, landslides, unstable soils, seismic activity, or dangerous cliffs).	**No**	There are no known natural hazards in the area that pose a threat greater than is found on all public lands.

Importance Criteria Determination:

Importance Value	Present	Rationale for Determination
Has more than locally significant qualities, which give it special worth, consequence, meaning, distinctiveness, or cause for concern, especially compared to any similar resource.	**Yes**	The rare vegetation series found within the ACEC is somewhat unique due to its dependency on serpentine soils and therefore limited in extent.
Has a quality or circumstance that make it fragile, sensitive, rare, irreplaceable, exemplary, unique, endangered, threatened, or vulnerable to adverse change.	**No**	The habitat here is typical of the coast range, but unique for the BLM because of the limited amount of such habitat under BLM management.
Has been recognized as warranting protection to satisfy national priority concerns or to carry out the mandates of FLPMA.	**No**	No national priority concerns are known in the area.
Has a quality that warrants highlighting to satisfy public or management concerns about safety and public welfare (e.g., poses a significant threat to human life and safety or to property).	**No**	The area contains no known qualities beyond those found on all public lands that warrant highlighting to satisfy either public or management concern over safety and public welfare.



Legend

ACEC Boundary

US Mineral Estate

Land Status

Bureau of Land Management

US Forest Service

Private/Other

Proposed Rusty Peak
Area of Critical Environmental Concern
Bureau of Land Management
Bakersfield Field Office

Map I 3.18-1

I.3.19 TEHACHAPI CORRIDOR

General Location: The proposed Tehachapi Corridor is located in Kern County north of the Tehachapi Mountains within the Southern Sierra Nevada. The area located, two miles north of the city of Tehachapi, includes the following Townships and Ranges; T28S to T31S – R32E to R35E. The area connects the Tehachapi area with the Sequoia National Forest south of the Kern River Valley; the proposal includes a portion of the Sequoia National Forest in the Breckenridge and Piute Mountains.

Public Surface Acreage: 31,144 acres
Other Land Owner Acreage: 244,164 acres
Federal Mineral Estate Acreage: 170,090 acres (138,946 acres Split Estate)
Total Proposed ACEC: 275,308 acres

Area Description:
The proposed Tehachapi Corridor ACEC includes private, state, and federal lands and mineral estate that was nominated through the public scoping process principally for its wildlife resources and rare plants. The nomination suggested the area contributes to a corridor linking the Coast, Transverse, and Sierra Nevada Ranges with the Mojave Desert. Located at the southern tip of the Sierra Nevada Range with elevations ranging from 1,500 to 8,400 feet, the proposed ACEC includes the Horse Canyon ACEC, and portions of the Piute Cypress ACEC and Monache-Walker Pass NCLWMA.

Ranging from the foothills of the San Joaquin Valley to the mountains in the southern Sierra Nevada range, the vegetation in the proposed ACEC includes grasslands, oak woodlands, riparian woodlands, and conifer woodlands, including some groves of the rare and unique Piute cypress. The federally-listed Bakersfield cactus also occurs within the proposed ACEC.

The lands within the proposed Tehachapi Corridor ACEC encompass great biodiversity and include habitat for many sensitive, rare, endemic and special status species.

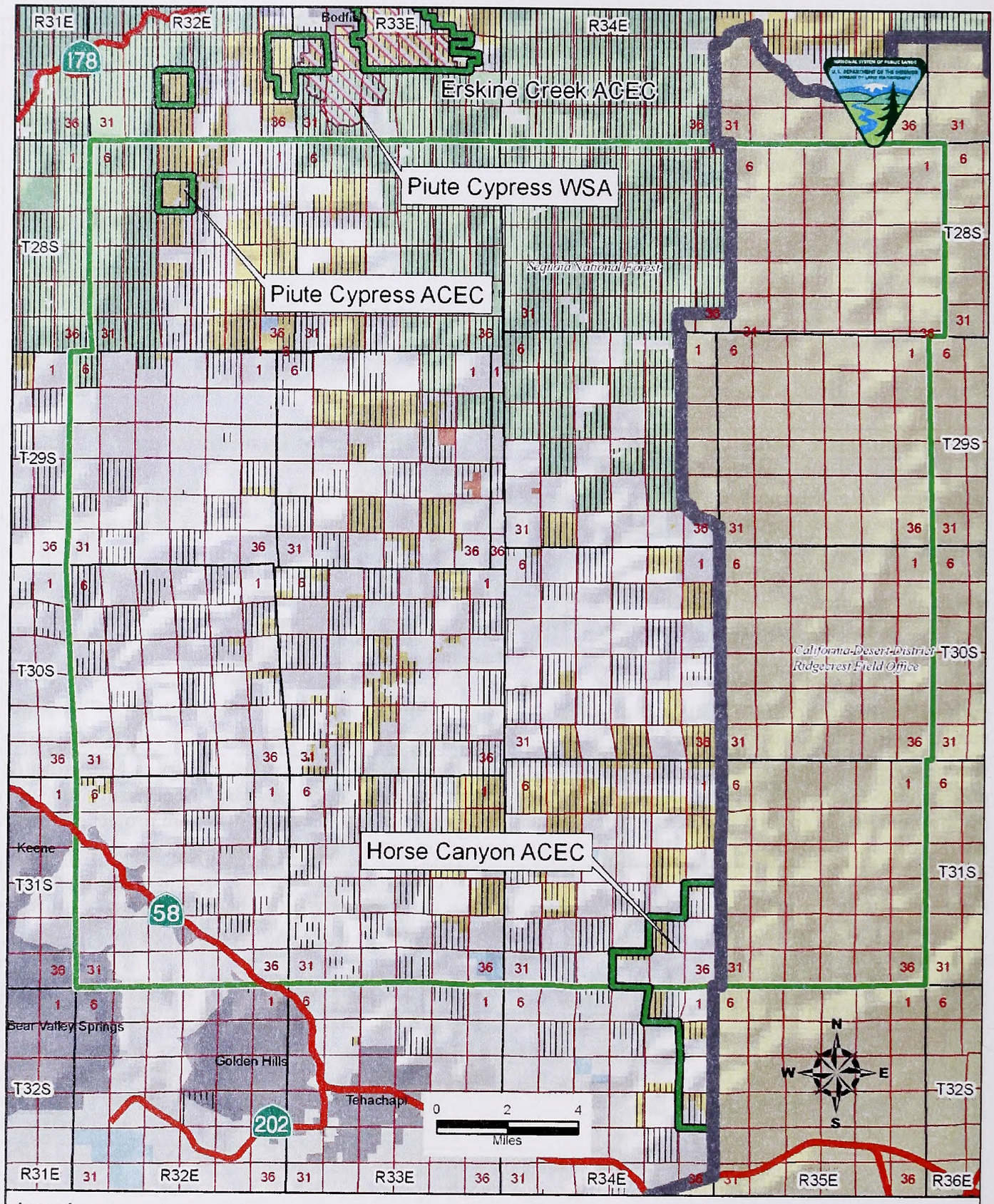
Relevance Criteria Determination:

Relevance Value	Present	Rationale for Determination
A significant historic, cultural, or scenic value (e.g., rare or sensitive archeological resources and religious or cultural resources important to Native Americans).	**No**	Cultural and scenic values may be present within the area, however they are not deemed to be significant values contributing to the nomination of the ACEC.
A fish and wildlife resource (e.g., habitat for endangered, sensitive, or threatened species; or habitat essential for maintaining species diversity).	**Yes**	The area contains special status animal species, including federally and state listed and BLM California sensitive species, and habitat corridors that are essential for maintaining species diversity and genetic linkages.

Relevance Value	Present	Rationale for Determination
A natural process or system (e.g., endangered, sensitive, or threatened plant species; rare, endemic, or relic plants or plant communities; or rare geological features).	Yes	The area contains special status plant species including federally and state listed and BLM California sensitive species.
Natural hazards (e.g., areas of avalanche, dangerous flooding, landslides, unstable soils, seismic activity, or dangerous cliffs).	No	There are no known natural hazards in the area that pose a threat greater than is found on all public lands.

Importance Criteria Determination:

Importance Value	Present	Rationale for Determination
Has more than locally significant qualities, which give it special worth, consequence, meaning, distinctiveness, or cause for concern, especially compared to any similar resource.	No	The area does not have more than locally significant qualities when compared to other similar resources within the Tehachapi corridor region.
Has a quality or circumstance that make it fragile, sensitive, rare, irreplaceable, exemplary, unique, endangered, threatened, or vulnerable to adverse change.	No	The relevant resources on public lands within the proposed ACEC are not particularly rare or vulnerable to adverse change.
Has been recognized as warranting protection to satisfy national priority concerns or to carry out the mandates of FLPMA.	No	Although a number of the federally listed species are present, their occurrence is uncommon and do not occur in sufficient numbers on public lands that would warrant protection for this national priority.
Has a quality that warrants highlighting to satisfy public or management concerns about safety and public welfare (e.g., poses a significant threat to human life and safety or to property).	No	The area contains no known qualities beyond those found on all public lands that warrant highlighting to satisfy either public or management concern over safety and public welfare.


R31E
R32E
R33E
R34E
R35E
R36E
Bodfish
178
Erskine Creek ACEC
Piute Cypress WSA
Piute Cypress ACEC
Sequoia National Forest
California Desert District
Ridgecrest Field Office
T28S
T29S
T30S
T31S
T32S
Keene
Horse Canyon ACEC
58
Bear Valley Springs
Golden Hills
Tehachapi
202
0 2 4
Miles
N
W
E
S
Legend
ACEC Boundary
Bakersfield FO Boundary
US Mineral Estate
Land Status
Bureau of Land Management
US Forest Service
US Fish and Wildlife Service
Private/Other
Proposed Tehachapi Corridor
Area of Critical Environmental Concern
Bureau of Land Management
Bakersfield Field Office
Map I 3.19-1

I.3.20 UPPER CUYAMA VALLEY

General Location: The proposed Upper Cuyama Valley ACEC is located 5 miles east and southeast from the town of Cuyama and 15 miles southwest of Maricopa, near the intersections of Santa Barbara, San Luis Obispo, Ventura, and Kern Counties and includes acreage in each. The area is adjacent to the Los Padres National Forest on the south and east; is south of the Carrizo Plain National Monument and west of the proposed Bitter Creek ACEC.

Public Surface Acreage: 6,351 acres
Other Land Owner Acreage: 8,859 acres
Federal Mineral Estate Acreage: 8,935 acres (2,584 acres Split Estate)
Total Proposed ACEC: 15,247 acres

Area Description:
The proposed Upper Cuyama Valley ACEC includes private and public lands and federal mineral, identified principally for its important habitat for federally listed animal and plant species. The area is also the convergence of the San Joaquin Valley ecoregion, the San Emigdio Range, and the Sierra Madre Mountains with elevations ranging from 2,400 to 3,320 feet.

The proposed ACEC and is located at the transition of the Cuyama River from the narrows in the foothills of the Sierra Madre Mountains to the broad, main plain of the Cuyama Valley. The proposed ACEC includes flat river bottom in the Cuyama channel, the surrounding gently sloping river terraces and steep mountain slopes and ridges. It is important in conserving the remnants of habitat in the Cuyama Valley that have not been converted to irrigated-cropland, vineyards and orchards.

Vegetation includes juniper woodlands, arid subshrub scrub, and alluvial scrub in the river channel. Vegetation series include California juniper series, Bigberry manzanita series, Bladderpod-California ephedra-narrowleaf goldenbush series, and scalebroom series (Sawyer and Keeler-Wolf 1995). The river channel migrates across the floodplain and is often devoid of vegetation or with disturbance adapted species like scalebroom. Water flow through the river is usually below the surface except during and immediately following rainfall events.

The juniper woodland terraces adjacent to the river floodplain are occupied by some of the largest extant populations of federally listed California jewelflower. While a few of these populations occur on public land, the largest and most extensive populations occur on private lands within the proposed ACEC boundary. Protection of the Cuyama Valley populations is necessary to achieve recovery goals for this species.

The proposed Upper Cuyama Valley ACEC contains important habitat for the conservation and recovery of the blunt-nosed leopard lizard, Kern primrose sphinx moth, and San Joaquin kit fox; there are several dry washes and alluvial fans leading to the river that provide habitat for these species. The recent discovery of Kern primrose sphinx moth in this area is also considered important for the conservation and recovery of this endangered species. In addition, the area along

the Cuyama River and in the lower reaches of Ballinger and Quatal Canyons is known as being a hybridization zone between the blunt-nosed leopard lizard found in the San Joaquin Valley and the long-nosed leopard lizard found in the Mojave, Sonoran, Chihuahua, and Great Basin deserts. This hybridization zone is important biologically and considered to have unique opportunities for scientific study.

The Cuyama Valley has largely been converted to irrigated farmland (crops, vineyards, and orchards); as such, the remnants of habitat found in the proposed ACEC are increasingly susceptible to adverse change and encroachment from these land uses.

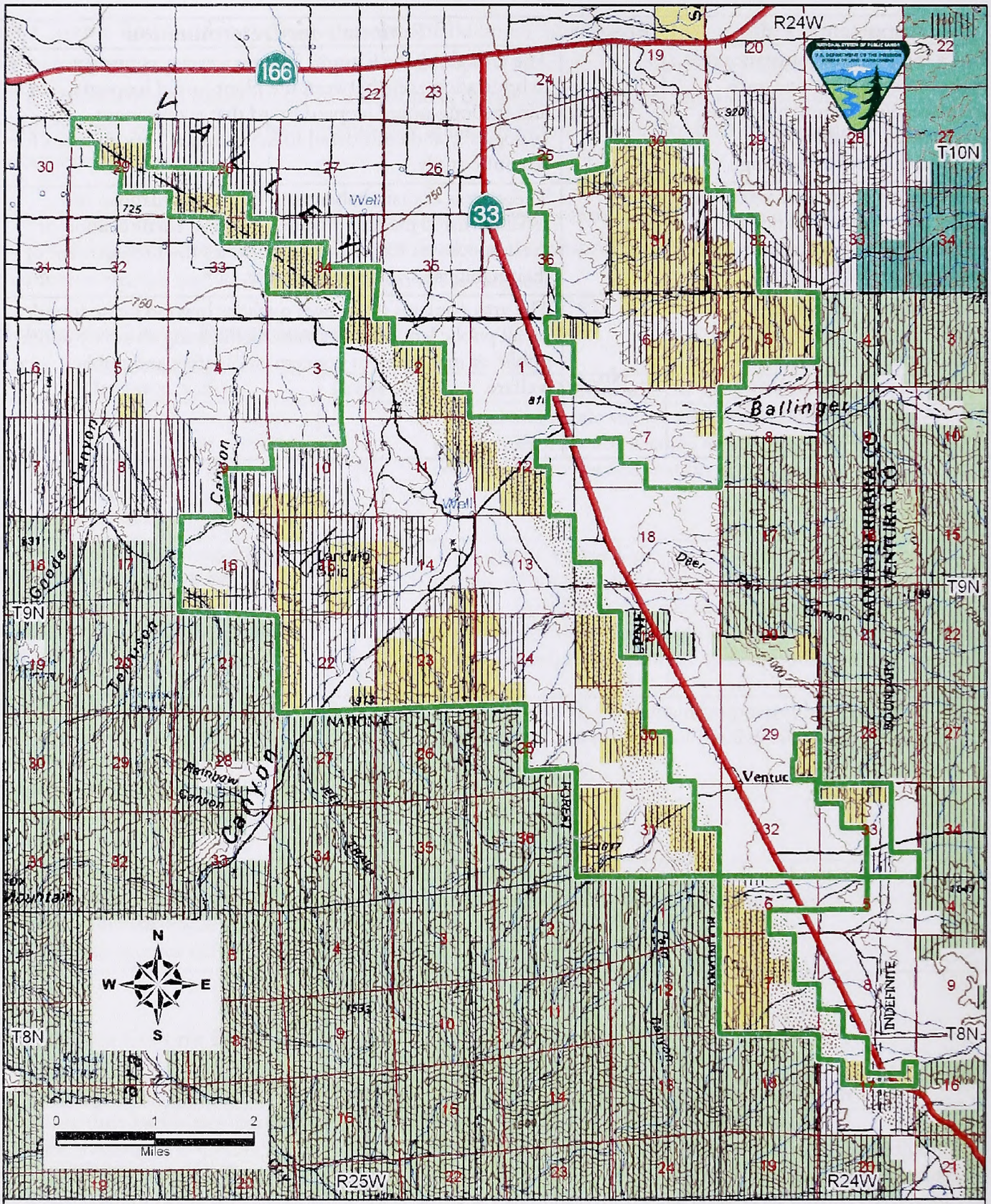
Relevance Criteria Determination:

Relevance Value	Present	Rationale for Determination
A significant historic, cultural, or scenic value (e.g., rare or sensitive archeological resources and religious or cultural resources important to Native Americans).	**No**	Cultural and scenic values may be present within the area, however they are not deemed to be significant values contributing to the nomination of the ACEC.
A fish and wildlife resource (e.g., habitat for endangered, sensitive, or threatened species; or habitat essential for maintaining species diversity).	**Yes**	The Upper Cuyama Valley area is a roost location between feeding stations for the federally-endangered California condor. In addition, it contains important habitat for the conservation and recovery of the federally listed blunt-nosed leopard lizard, Kern primrose sphinx moth, and San Joaquin kit fox.
A natural process or system (e.g., endangered, sensitive, or threatened plant species; rare, endemic, or relic plants or plant communities; or rare geological features).	**Yes**	The proposed ACEC contains important habitat for the conservation and recovery of the federally listed California jewelflower.
Natural hazards (e.g., areas of avalanche, dangerous flooding, landslides, unstable soils, seismic activity, or dangerous cliffs).	**No**	There are no known natural hazards in the area that pose a threat greater than is found on all public lands.

Importance Criteria Determination:

Importance Value	Present	Rationale for Determination
Has more than locally significant qualities, which give it special worth, consequence, meaning, distinctiveness, or cause for concern, especially compared to any similar resource.	**Yes**	The proposed ACEC is occupied by some of the largest extant populations of California jewelflower. In addition, the recent discovery of Kern primrose sphinx moth in this area is also important for the conservation and recovery of this species.

Importance Value	Present	Rationale for Determination
Has a quality or circumstance that make it fragile, sensitive, rare, irreplaceable, exemplary, unique, endangered, threatened, or vulnerable to adverse change.	**Yes**	The area along the Cuyama River is known as being a hybridization zone between the blunt-nosed leopard lizard and the long-nosed leopard lizard that is important biologically and considered to have unique opportunities for scientific study.
Has been recognized as warranting protection to satisfy national priority concerns or to carry out the mandates of FLPMA.	**Yes**	These areas contain habitat and extant populations of federally listed plant and animal species. Identification of these species as federally listed elevates the management of their habitats as a national priority.
Has a quality that warrants highlighting to satisfy public or management concerns about safety and public welfare (e.g., poses a significant threat to human life and safety or to property).	**No**	The area contains no known qualities beyond those found on all public lands that warrant highlighting to satisfy either public or management concern over safety and public welfare.



Legend

ACEC Boundary

US Mineral Estate

Land Status

Bureau of Land Management

US Forest Service

US Fish and Wildlife Service

Private/Other

Proposed Upper Cuyama Valley
Area of Critical Environmental Concern
Bureau of Land Management
Bakersfield Field Office

Map I 3.20-1

LIST OF PREPARERS

The Interdisciplinary Team of BLM resource specialists in the Bakersfield FO who participated in the completion of the ACEC Report are listed in Table I-1.

Table I-1
BKFO Interdisciplinary Team Members

Name	Resource
Tamara Whitley	Archaeology, Paleontology
Sue Porter	Project Manager
Peter DeWitt	Visual Resources, Cave and Karst
Denis Kearns	Botany
Steve Larson	Assistant Field Manager
Larry Saslaw	Wildlife
Amy Kuritsubo	Wildlife
Larry Vredenburgh	Geographic Information Systems (GIS)

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APPENDIX J

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APPENDIX J – WILD AND SCENIC RIVERS SUITABILITY REPORT J-1

WILD AND SCENIC RIVER SUITABILITY REPORT

FOR BAKERSFIELD FIELD OFFICE, CALIFORNIA



July 2010

Prepared for:

US Department of Interior, Bureau of Land Management
Bakersfield Field Office
3801 Pegasus Drive
Bakersfield, CA 93308

Prepared by:

Tetra Tech, Inc.
555 Market Street, 15th Floor
San Francisco, CA 94105

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LIST OF ACRONYMS

Acronym or Abbreviation	Full Phrase
ACEC	Area of Critical Environmental Concern
BKFO	Bakersfield Field Office
BLM	United States Department of Interior, Bureau of Land Management
EIS	environmental impact statement
NPS	US Department of the Interior, National Park Service
NRHP	National Register of Historic Places
NWSRS	National Wild and Scenic Rivers System
ORV	outstandingly remarkable value
Reclamation	US Department of the Interior, Bureau of Reclamation
RMP	resource management plan
SRMA	Special Recreation Management Area
VRM	visual resource management
WSA	Wilderness Study Area
WSR	Wild and Scenic River
WSR Act	Wild and Scenic Rivers Act

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EXECUTIVE SUMMARY

Introduction

The US Department of the Interior, Bureau of Land Management (BLM) Bakersfield Field Office (BKFO) has completed the eligibility phase of a wild and scenic rivers (WSR) evaluation as part of a past resource management plan (RMP) revision process. In 1997, the BLM identified seven segments as eligible for inclusion in the National Wild and Scenic Rivers System (NWSRS) as part of the Caliente RMP (BLM 1997a, 1997b). As part of this RMP revision, the BLM studied two additional rivers for eligibility, the Fresno and the San Joaquin, and found two segments along the San Joaquin River to be eligible for inclusion in the NWSRS. The cumulative result of these studies is that nine segments within the BKFO have been identified as eligible. However, Segment 2 of the San Joaquin River is withdrawn to the US Department of the Interior, Bureau of Reclamation (Reclamation) for the Central Valley Project, in accordance with a 1969 land management contract between Reclamation and the BLM. The land management contract is supplemented by an Interagency Agreement between the two parties that gives the BLM the lead in making land management decisions pertaining to the withdrawn lands. The BLM is to coordinate with Reclamation on land allocation decisions. As such, any suitability determination for that stretch of river should be made in conjunction with Reclamation and a suitability determination is not made for Segment 2 in this report.

The next step in the WSR process is evaluating eligible segments for suitability. The purpose of the suitability phase of the study process is to determine whether eligible rivers would be appropriate additions to the national system by considering tradeoffs between corridor development and river protection. This report describes the method used, data considered, and determinations made during the eligibility and suitability phases. All eligible segments were assessed for suitability, except for Segment 2 of the San Joaquin River.

Project Area

The project area for this suitability study includes all BLM-managed river segments in the BKFO that have been determined to meet the eligibility criteria for WSRs. The BKFO manages approximately 403,910 acres of public lands in central California.

Eligibility Phase Summary

The eligibility studies have determined nine individual segments meet the criteria for inclusion in the NWSRS: Chimney Creek, East Fork of the Kaweah River, Middle Fork of the Kaweah River, North Fork of the Kaweah River, lower Kern River, South Fork of the Kern River, Salinas River, and two segments of the San Joaquin River. Eligibility reports for the nine eligible segments can be found in Appendix A, which also contains the eligibility report for the Fresno River, which was studied as part of the RMP process and was not found eligible.

Suitability Phase

The purpose of the suitability phase of the study process is to determine whether eligible rivers would be appropriate additions to the NWSRS by considering tradeoffs between corridor development and river protection. The suitability evaluation does not result in actual designation but only a suitability determination for designation. The BLM cannot administratively designate a stream via a planning decision or other agency decision into the NWSRS, and no segment studied is designated or will be automatically designated as part of the NWSRS. Ordinarily only Congress can designate a WSR, but the Secretary of the Interior can designate a WSR when the governor of a state, under certain conditions, petitions for a river to be so designated. Congress will ultimately choose the legislative language if any suitable segments are presented. Water-protection strategies and measures to meet the purposes of the Wild and Scenic Rivers Act are the responsibility of Congress in any legislation proposed. Rivers found not suitable by the managing agency conducting the suitability study would be dropped from further consideration and managed according to the objectives and specific management prescriptions outlined in the RMP.

Suitability Criteria

In accordance with BLM Manual 8351 (BLM 1993a) and the Interagency Wild and Scenic Rivers Coordinating Council Guidelines on Wild and Scenic Rivers Suitability (Interagency Wild and Scenic Rivers Coordinating Council 1999), the BLM applied the following 10 suitability criteria factors to each eligible river segment when completing the suitability study:

1. Characteristics that do or do not make the river a worthy addition to the NWSRS;
2. The status of landownership and surface and subsurface minerals use in the area, including the amount of private land involved and associated or incompatible uses;
3. Reasonably foreseeable potential uses of the land and related waters that would be enhanced, foreclosed, or curtailed if the area were included in the

NWSRS and values that would be foreclosed or diminished if the area were not designated;

4. Federal, state, tribal, local, public, or other interest in designating or not designating the river;
5. Estimated cost of acquiring necessary lands or interests in lands and administering the area if designated;
6. Ability of the agency to manage and protect the river area or segment as a WSR or other means to protect the identified values other than WSR designation;
7. Historical or existing rights that could be adversely affected with designation;
8. Adequacy of local zoning and other land use controls in protecting the river's outstandingly remarkable values by preventing incompatible development;
9. Consistency of designation with other agency plans, programs, or policies; and
10. Other issues and concerns, if any.

Suitability Determinations

Table ES-1 shows the preliminary suitability determination for each segment.

Table ES-1
Summary of Preliminary Suitability Determinations

River or Creek	Segment Length (miles) on BLM land	Preliminary Suitability Determination	Recommended Classification
Chimney Creek	15.5	Not suitable	
East Fork of the Kaweah River	2.3	Not suitable	
Middle Fork of the Kaweah River	0.12	Not suitable	
North Fork of the Kaweah River	2.5	Suitable	Recreational
Lower Kern River	3.2	Not suitable	
South Fork of the Kern River	0.7	Not suitable	
Salinas River	0.8	Not suitable	
San Joaquin River (Segment 1)	5.4	Suitable	Wild/Scenic

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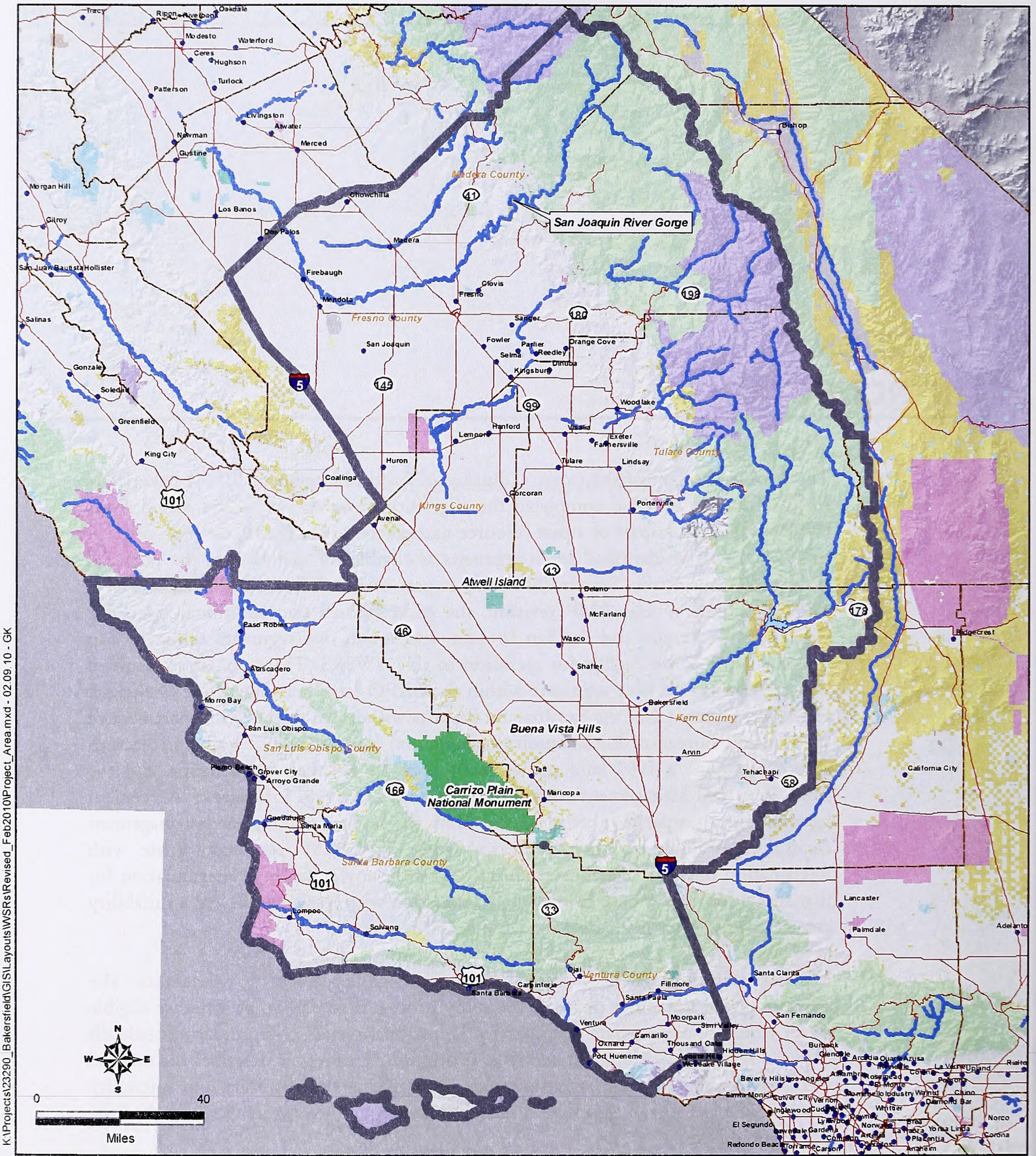
SECTION 1
INTRODUCTION

The US Department of the Interior, Bureau of Land Management (BLM) Bakersfield Field Office (BKFO) has completed the eligibility phase of a wild and scenic rivers (WSR) evaluation as part of a past resource management plan (RMP) revision process. In 1997, the BLM identified seven segments as eligible for inclusion in the National Wild and Scenic Rivers System (NWSRS) as part of the Caliente RMP (BLM 1997a, 1997b). As part of this RMP revision, the BLM studied two additional rivers for eligibility, the Fresno and the San Joaquin, and found two segments along the San Joaquin River to be eligible for inclusion in the NWSRS. The cumulative result of these studies is that nine segments within the BKFO have been identified as eligible. However, Segment 2 of the San Joaquin River is withdrawn to the US Department of the Interior, Bureau of Reclamation (Reclamation) for the Central Valley Project, in accordance with a 1969 land management contract between Reclamation and the BLM. The land management contract is supplemented by an Interagency Agreement between the two parties that gives the BLM the lead in making land management decisions pertaining to the withdrawn lands. The BLM is to coordinate with Reclamation on land allocation decisions. As such, any suitability determination for that stretch of river should be made in conjunction with Reclamation and a suitability determination is not made for Segment 2 in this report.

The next step in the WSR process is evaluating eligible segments for suitability. The purpose of the suitability phase of the study process is to determine whether eligible rivers would be appropriate additions to the national system by considering tradeoffs between corridor development and river protection. This report describes the method used, data considered, and determinations made during the eligibility and suitability phases. All eligible segments were assessed for suitability, except for Segment 2 of the San Joaquin River.

1.1 PROJECT AREA

The project area for this suitability study includes all BLM-managed river segments that have been determined to meet the eligibility criteria for WSRs. The BKFO manages approximately 403,910 acres of public lands in central California (**Figure 1-1**).


San Joaquin River Gorge
Madera County
Fresno County
Tulare County
Kings County
Kern County
Atwell Island
Buena Vista Hills
Carrizo Plain National Monument
San Luis Obispo County
Santa Barbara County
Ventura County
Tracy
Ripon
Riverbank
Oakdale
Modesto
Waterford
Ceres
Hughson
Turlock
Patterson
Livingston
Atwater
Merced
Newman
Gustine
Morgan Hill
Gilroy
Los Banos
Dos Palos
Chowchilla
Madera
Bishop
San Juan Bautista
Hollister
Firebaugh
Mendota
Fresno
Clovis
Sanger
Salinas
Gonzales
Soledad
Greenfield
King City
San Joaquin
Fowler
Parlier
Selma
Reedley
Orange Cove
Dinuba
Kingsburg
Woodlake
Lemoore
Hanford
Visalia
Exeter
Farmersville
Tulare
Lindsay
Huron
Coalinga
Corcoran
Porterville
Avenal
Delano
McFarland
Wasco
Shafter
Bakersfield
Arvin
Tehachapi
California City
Ridgecrest
Paso Robles
Atascadero
Morro Bay
San Luis Obispo
Pismo Beach
Grover City
Arroyo Grande
Guadalupe
Santa Maria
Taft
Maricopa
Lompoc
Solvang
Santa Barbara
Carpinteria
Ojai
Ventura
Oxnard
Port Hueneme
Camarillo
Thousand Oaks
Fillmore
Santa Paula
Moorpark
Simi Valley
Santa Clarita
Lancaster
Palmdale
Adelanto
San Fernando
Burbank
Glendale
Pasadena
Arcadia
Azusa
Beverly Hills
Los Angeles
Santa Monica
Culver City
Inglewood
Whittier
Norwalk
Norco
Corona
Anaheim
Redondo Beach
Torrance
Carson
El Segundo
Hawthorne
Gardena
Compton
Lynwood
Downey
Bell
Cudahy
Vernon
Montebello
Industry
Walnut
Chino
Diamond Bar
Brea
Yorba Linda
Placentia
La Habra
La Verne
Upland
Rialto
Colton
Rosemead
Alhambra
Monterey Park
Temple City
Arcadia
Duarte
Irwindale
Azusa
Covina
Baldwin Park
West Covina
Glendora
San Dimas
Claremont
Pomona
Ontario
Montclair
Chino
Chino Hills
Diamond Bar
Walnut
Rowland Heights
La Puente
City of Industry
Hacienda Heights
Whittier
La Habra
Brea
Yorba Linda
Placentia
Norco
Corona
Anaheim
Buena Park
Cypress
Stanton
Garden Grove
Westminster
Fountain Valley
Huntington Beach
Seal Beach
Los Alamitos
Long Beach
Lakewood
Bellflower
Paramount
Downey
Norwalk
Santa Fe Springs
La Mirada
Whittier
Pico Rivera
Montebello
Commerce
Bell Gardens
Cudahy
South Gate
Lynwood
Compton
Hawthorne
Lawndale
Gardena
Torrance
Redondo Beach
El Segundo
Inglewood
Culver City
Vernon
Bell
Huntington Park
Maywood
Lynwood
Downey
Whittier
Norwalk
Norco
Corona
Anaheim
Placentia
Yorba Linda
Brea
La Habra
Diamond Bar
Walnut
Chino
Chino Hills
Rialto
Colton
Redlands
Loma Linda
Highland
San Bernardino
Riverside
Moreno Valley
Perris
Hemet
San Jacinto
Beaumont
Banning
Calimesa
Yucaipa
Calimesa

1.2 WHY CONDUCT A SUITABILITY STUDY AND WHY NOW?

Section 5(d)(1) of the Wild and Scenic Rivers Act (WSR Act) (Public Law 90-542, 16 US Code 1271-1287) directs federal agencies to consider potential WSRs in their land and water planning. To fulfill this requirement, whenever the BLM undertakes a land use planning effort (for example, an RMP) it must analyze river and stream segments that might be eligible for inclusion in the NWSRS.

The BKFO is revising its RMP for the BLM-administered public lands within the field office and completing an environmental impact statement (EIS) for the RMP. This WSR eligibility and suitability study is being conducted now because the BLM is required by the WSR Act to assess river and stream segments under its management jurisdiction as part of the RMP process.

1.3 WHAT IS A WILD AND SCENIC RIVER?

Congress enacted the WSR Act on October 2, 1968, to address the need for a national system of river protection. As an outgrowth of a national conservation agenda in the 1950s and 1960s, the WSR Act was in response to the dams, diversions, and water resource development projects that occurred on America's rivers between the 1930s and 1960s. The WSR Act stipulated that selected rivers should be preserved in a free-flowing condition and be protected for the benefit and enjoyment of present and future generations. Since 1968, the WSR Act has been amended many times, primarily to designate additional rivers and to authorize the study of other rivers for possible inclusion in the NWSRS.

The WSR Act protects and enhances a river's natural and cultural values and provides for public use consistent with its free-flowing character, water quality, and outstandingly remarkable values (ORVs). A WSR designation affords certain legal protection from development. For instance, new dams cannot be constructed, and federally assisted water resource development projects that might negatively affect the designated river values are not permitted within the designated segment. Where private lands are involved, the federal managing agency works with local governments and landowners to develop protective measures.

As of June 2009, more than 12,500 miles of 203 rivers in 39 states and the Commonwealth of Puerto Rico have been protected in the NWSRS (Interagency Wild and Scenic Rivers Coordinating Council 2009). These nationally recognized rivers make up a valuable network of natural and cultural resources, scenic beauty, and recreation opportunities.

1.4 STEPS IN THE WILD AND SCENIC STUDY PROCESS

A WSR study process has two main components: the eligibility phase and the suitability phase. The BLM has completed the eligibility phase for the streams within the BKFO; the BKFO is now completing the suitability phase for eligible streams. The eligibility and suitability phases were conducted in accordance with BLM Manual 8351, *Wild and Scenic Rivers—Policy and Program Direction for Identification, Evaluation, and Management* (BLM 1993a), *The Wild and Scenic River Study Process*

Technical Report (Interagency Wild and Scenic Rivers Coordinating Council 1999), and the WSR Act.

1.4.1 Eligibility Phase

The eligibility phase was completed for the BKFO for most of its streams in 1997 as part of the Caliente RMP (BLM 1997a, BLM 1997b). As part of this RMP revision, two additional rivers, the Fresno and San Joaquin, were studied for eligibility. Below is a brief description of the steps that were implemented in completing the eligiblity phase.

Steps in the Eligibility Phase

The process described in the following paragraphs has been completed and is included here as a reference. For a complete description of the method used, see the Caliente Final RMP/Final EIS (BLM 1997a) and Record of Decision (BLM 1997b). The eligibility reports for the segments studied in this suitability report are presented in **Appendix A**.

River and Stream Identification

The WSR Act defines a river as, "a flowing body of water or estuary or a section, portion, or tributary thereof, including rivers, streams, creeks, runs, kills, rills, and small lakes." All rivers that have potential for WSR designation must be identified and evaluated. Rivers identified for review may be divided into segments for evaluation. There are no specific requirements for segment length.

A river study area extends the length of the identified river segment and includes the river area and its immediate environment, which is an average of no more than 320 acres per mile from the ordinary high-water mark on both sides of the river. The planning team outlines a preliminary or proposed boundary, usually extending a quarter-mile from either side of the river.

Eligibility Evaluation

Each identified river segment is evaluated to determine whether or not it is eligible for inclusion as a component of the NWSRS. Determinations of eligibility are documented by the authorized officer (BLM Field Office Manager) before the alternatives are formulated but no later than the release of the draft land management plan or land management plan amendment.

The WSR Act states that, in order to be found eligible, a river segment must be free flowing and contain at least one river-related value considered to be outstandingly remarkable.

Free-flowing is defined by Section 16(b) of the WSR Act as "existing or flowing in natural condition without impoundment, diversion, straightening, riprapping, or other modification of the waterway." The existence of small dams, diversion works, or other minor structures at the time the river is being considered should not automatically disqualify it for consideration as a potential addition to the NWSRS.

Congress did not intend to require rivers to be "naturally flowing," in other words, flowing without any upstream manipulation except by nature. A river cannot be rendered ineligible by the presence of impoundments above or below the segment (including those that may regulate flow regime through the segment) or by existing minor dams or diversion structures within the study reach.

To be considered outstandingly remarkable, a river's related value must be a unique, rare, or exemplary feature that is significant at a comparative regional or national scale.

Assign Tentative Classification

If the eligibility phase determines segments to be eligible, the appropriate agency assigns a tentative classification and management measures needed to ensure appropriate protection of the values supporting the eligibility and classification determinations. There are three classes for rivers designated under the WSR Act: Wild, Scenic, and Recreational. Classes are based on the type and degree of human development and access associated with the river and adjacent lands at the time of the eligibility determination. The classification does not reflect the types of values present along a river segment. The classification assigned during the eligibility phase is tentative; it may be changed by the managing agency in the final land management plan to fit with other land management prescriptions, provided the revised classification was analyzed in the draft land management plan as part of the National Environmental Policy Act process. Final classification is a congressional legislative determination, along with designation of a river segment as part of the NWSRS.

Results of Eligibility Phase

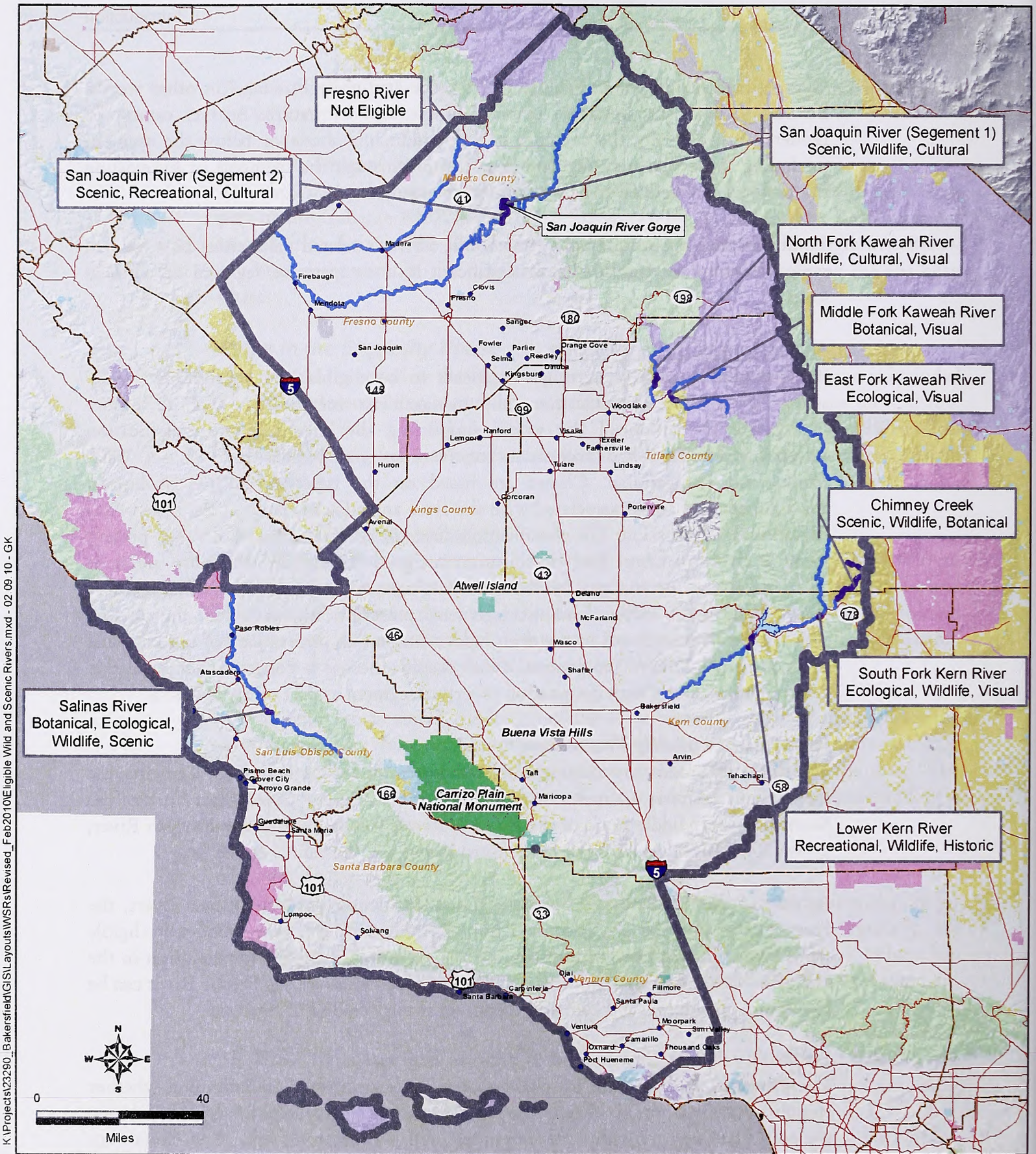
The eligibility studies previously completed determined seven individual segments met the eligibility criteria for inclusion in the NWSRS: Chimney Creek, East Fork of the Kaweah River, Middle Fork of the Kaweah River, North Fork of the Kaweah River, Lower Kern River, South Fork of the Kern River, and the Salinas River.

As part of this RMP revision process, the BKFO studied two additional rivers, the Fresno River and the San Joaquin River. The Fresno River was found not eligible while two segments of the San Joaquin River were found eligible for inclusion in the NWSRS.[1] Eligibility reports for the nine eligible segments and the Fresno River can be found in Appendix A, and **Figure 1-2** shows the eligible BKFO segments.

1.4.2 Suitability Phase

The purpose of the suitability phase of the study process is to determine whether eligible segments would be appropriate additions to the NWSRS by considering tradeoffs between corridor development and river protection. The suitability

[1]Segment 2 of the San Joaquin River is withdrawn by BLM to Reclamation per a 1968 agreement between Reclamation and the BLM. As such, any suitability determination for that stretch of river will be made in conjunction with or in whole by Reclamation. Segment 2 was not studied for suitability in this report.



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Legend

- Kern — County Boundary
- Bakersfield Field Office Boundary
- Carrizo Plain National Monument
- Wild and Scenic Rivers
- Wild and Scenic Rivers on BLM Lands
- Towns/Cities
- Bureau of Land Management
- Forest Service
- National Park Service
- Bureau of Reclamation
- US Fish and Wildlife Service
- Military
- State Lands
- County / City / Regional
- Unclassified

Eligible Wild and Scenic Rivers
Bureau of Land Management
Bakersfield Field Office

Bakersfield, California

Figure 1-2

evaluation does not result in actual designation but only a suitability determination for designation. The BLM cannot administratively designate a stream via a planning decision or other agency decision into the NWSRS, and no segment studied is designated or will be automatically designated as part of the NWSRS. Ordinarily only Congress can designate a WSR, but the Secretary of the Interior can designate a WSR when the governor of a state, under certain conditions, petitions for a river to be so designated. Congress will ultimately choose the legislative language if any suitable segments are presented. Water-protection strategies and measures to meet the purposes of the Wild and Scenic Rivers Act are the responsibility of Congress in any legislation proposed. Rivers found not suitable by the managing agency conducting the suitability study would be dropped from further consideration and managed according to the objectives and specific management prescriptions outlined in the land management plan. A summary of segments identified as eligible in the BKFO and that were evaluated for suitability in this report is provided in **Table 1-1**.

Table 1-1
BLM Eligible Segments Studied for Suitability

River or Creek	Planning Unit	Total River Length (miles)	Length on BLM Land (miles)	Preliminary Classification	ORVs
Chimney Creek	Sierra	21.5	15.5	Wild/Recreational	Scenic, Wildlife, Botanical
East Fork of the Kaweah River	Sierra	21.8	2.3	Recreational*	Ecological, Visual
Middle Fork of the Kaweah River	Sierra	18.8	0.12	Recreational	Botanical, Visual
North Fork of the Kaweah River	Sierra	20.7	2.5	Scenic/Recreational	Wildlife, Cultural, Visual
Lower Kern River	Sierra	39.1	3.2	Recreational	Recreational, Wildlife, Historic
South Fork of the Kern River**	Sierra	85.0	0.7	Recreational	Ecological, Wildlife, Visual
Salinas River	Coast	75.6	0.8	Scenic	Botanical, Ecological, Wildlife, Scenic
San Joaquin River (Segment 1)***	Sierra	186.9	5.4	Wild/Scenic	Scenic, Wildlife, Cultural

Sources: BLM 1997a, 1997b

*The preliminary classification for the East Fork of the Kaweah River was identified as scenic in the 1997 Caliente RMP (BLM 1997a). However, when the BLM interdisciplinary team reviewed this classification during this suitability study, it changed the preliminary classification to recreational due to the presence of a road that parallels most of the segment.

**In addition to those ORVs listed here for the South Fork of the Kern River, the Caliente Resource Management Plan Record of Decision also identified historic and prehistoric ORVs (BLM 1997b). When the BLM interdisciplinary team reviewed these ORVs during this suitability study, it was found that ranching, the historic ORV, is not outstandingly remarkable in the region. Additionally, the prehistoric sites are not on BLM land within the study area corridor.

***An additional segment of the San Joaquin River was found eligible for inclusion in the NWSRS, but it is on lands withdrawn by Reclamation to the BLM, in accordance with a 1968 agreement between Reclamation and the BLM. As such, any suitability determination for that stretch of river will be made in conjunction with or in whole by Reclamation. Segment 2 is not studied for suitability in this report.

SECTION 2
METHOD

This section describes the method implemented to evaluate eligible segments for suitability. The criteria used to evaluate eligible river and stream segments are those described in BLM Manual 8351, *Wild and Scenic Rivers—Policy and Program Direction for Identification, Evaluation, and Management* (BLM 1993a) and recommendations from the Interagency Wild and Scenic Rivers Coordinating Council (1999).

2.1 SUITABILITY CRITERIA USED TO EVALUATE RIVER AND STREAM SEGMENTS

The purpose of the suitability phase of the study process is to determine whether eligible rivers would be appropriate additions to the NWSRS by considering tradeoffs between corridor development and river protection. Suitability considerations include the environment and economic consequences of designation and the manageability of a river if Congress were to designate it.

A suitability study is designed to answer these questions:

1. Should the river's free-flowing character, water quality, and ORVs be protected, or are one or more other uses important enough to warrant doing otherwise?
2. Will the river's free-flowing character, water quality, and ORVs be protected through designation? Is it the best method for protecting the river corridor? In answering these questions, the benefits and impacts of WSR designation must be evaluated, and alternative protection methods considered.
3. Is there a demonstrated commitment to protect the river by any nonfederal entities who may be partially responsible for implementing protective management?

With the above guidance from the Interagency Wild and Scenic Rivers Coordinating Council (1999) in mind, the following eight suitability criteria factors, identified in BLM Manual Section 8351 (BLM 1993a), were applied to each eligible river segment the suitability study:

1. Characteristics which do or do not make the area a worthy addition to the NWSRS.

2. Status of landownership, minerals (surface and subsurface), use in the area, including the amount of private land involved, and associated or incompatible uses. Jurisdictional consideration (administrative role and/or presence) must be taken into account to the extent that management would be affected. In situations where there is limited public lands (shoreline and adjacent lands) administered by the BLM within an identified river study area, it may be difficult to ensure those identified outstandingly remarkable values could be properly maintained and afforded adequate management protection over time. Accordingly, for those situations where the BLM is unable to protect or maintain any identified outstandingly remarkable values, or through other mechanisms (existing or potential), river segments may be determined suitable only if the entity with land use planning responsibility supports the finding and commits to assisting the BLM in protecting the identified river values. An alternative method to consider these segments is for state, local governments, or private citizens to initiate efforts for designation under Section 2(a)(iii), or a joint study under Section 5(c) of the WSR Act. In certain cases, there might be existing or future opportunities for the BLM to acquire river shoreline or where landowners are willing to donate, exchange, transfer, assign, sell, or sign an easement. Wherever appropriate, the BLM shall encourage the state, responsible federal agency or other entities to evaluate segments where the BLM lacks sufficient jurisdictional control and the BLM shall provide technical assistance concerning the WSR river studies, as well as information concerning public lands within the study corridor. The BLM shall continue to protect and, wherever possible, enhance any outstandingly remarkable values identified in the RMP process which are associated with lands under the BLM's jurisdiction.

3. Reasonably foreseeable potential uses of the land and related waters which would be enhanced, foreclosed, or curtailed if the area were included in the NWSRS, and the values which could be foreclosed or diminished if the area is not protected as part of the NWSRS.

4. Federal, public, state, tribal, local, or other interests in designation or nondesignation of the river, including the extent to which the administration of the river, including the costs thereof, may be shared by state, local, or other agencies and individuals. Also, the federal agency that will administer the area should it be added to the National System.

5. Estimated cost, if necessary, of acquiring lands, interests in lands, and administering the area if it is added to the NWSRS. Section 6 of the WSR Act outlines policies and limitations of acquiring lands or interests in land by donation, exchange, consent of owners, easement, transfer, assignment of rights, or condemnation within and outside established river boundaries.

6. Ability of the agency to manage and/or protect the river area or segment as a WSR river, or other mechanisms (existing and potential) to protect identified values other than WSR designation.
7. Historical or existing rights which could be adversely affected. In determining suitability, consideration of any valid existing rights must be afforded under applicable laws (including the WSR Act), regulations, and policies.
8. Other issues and concerns, if any.

In addition to the criteria described above, two suitability factors were considered, as suggested by the Interagency Wild and Scenic Rivers Coordinating Council (1999):

1. Adequacy of local zoning and other land use controls in protecting the river's ORVs by preventing incompatible development. This evaluation may result in a formal finding that the local zoning fulfills Section 6(c)'s requirements, which in turn preempts the federal government's ability to acquire land through eminent domain if the river is designated.
2. Consistency of designation with other agency plans, programs, or policies and in meeting regional objectives. Designation may help or impede the "goals" of other tribal, federal, state, or local agencies. For example, designation of a river may contribute to state or regional protection objectives for fish and wildlife resources. Similarly, adding a river which includes a limited recreation activity or setting to the National System may help meet statewide recreation goals. Designation might, however, limit irrigation and/or flood control measures in a manner inconsistent with regional socioeconomic goals.

2.2 Data Sources and Methods

The BLM relied on several sources, including geographic information systems data, BKFO resource specialists, informational sources, and other agencies. The result was a compilation of data applicable to the suitability criteria. This data was then used to determine the suitability of a particular segment.

2.2.1 BLM Resource Interdisciplinary Team

The BLM interdisciplinary team consisted of nine resource specialists. The interdisciplinary team provided information pertaining to the suitability criteria factors for accuracy. Once all available data were compiled, the team evaluated each segment and made a suitability determination.

2.2.2 Informational Sources

The BLM used the following informational sources and publications to evaluate segments for suitability:

- BLM Manual Section 8351;
- Land status maps;
- Agreements with other agencies;

- Other agency management plans; and
- Land use planning and zoning documents for local and county governments.

2.2.3 Public Input

Eligibility Phase

Public involvement for the BKFO WSR evaluation process began during the eligibility phase. After the publication of the Draft Caliente RMP/Draft EIS in 1993 (BLM 1993b), the public had an opportunity to comment on the eligibility of segments. Any comments received were taken into account and incorporated into the Final Caliente RMP/Final EIS (BLM 1997a).

Suitability Phase

When the Draft RMP/Draft EIS for this RMP revision is published, the public will have 90 days to comment on the draft suitability determinations. Comments will be incorporated into the Final RMP/Final EIS.

2.3 Suitability Determinations

Each of the eight individual eligible segments were evaluated to assess whether it would be suitable for inclusion in the NWSRS. The determination was made based on the suitability criteria factors described previously. When the Draft RMP/Draft EIS is published, the public will have 90 days to comment on the draft suitability determinations.

2.4 Interim Management of Suitable Segments

BLM guidance requires that interim management be developed and followed to protect the free-flowing nature, ORVs, and recommended classification of suitable segments until congressional action regarding designation is taken. Interim protections for suitable segments are provided administratively by the management agency and are not legislative protection under the WSR Act. Legislative protection is provided only by formal designation by Congress. A general description of interim management for suitable segments is included in **Section 4**.

SECTION 3
SUITABILITY CRITERIA-BASED DATA AND DETERMINATIONS

3.1 INTRODUCTION

The purpose of the suitability phase is to determine whether eligible river segments are suitable or not suitable for inclusion in the NWSRS, in accordance with the criteria from the WSR Act. The suitability evaluation does not result in actual designation but only a suitability determination for designation. The BLM may or may not recommend a stream segment for designation into the NWSRS by transmitting its suitability determinations to Congress and the President. No stream segment studied is designated or will be automatically designated as part of the NWSRS. Ordinarily only Congress can designate a WSR, but the Secretary of the Interior can designate a WSR when the governor of a state, under certain conditions, petitions for a river to be so designated. Congress will ultimately choose the legislative language if any suitable segments are presented. Water-protection strategies and measures to meet the purposes of the Wild and Scenic Rivers Act are the responsibility of Congress in any legislation proposed. Rivers found not suitable will be dropped from further consideration and will be managed according to the objectives outlined in the RMP.

Impacts that would occur from designating or not designating the suitable river segments will be analyzed in the EIS associated with the RMP. Public review and comment on suitability determinations included in the Draft RMP are considered before the BLM makes final suitability determinations.

The criteria described in **Section 2.1** are presented as follows:

1. Characteristics that do or do not make the river a worthy addition to the NWSRS;
2. The status of landownership and surface and subsurface minerals use in the area, including the amount of private land involved and associated or incompatible uses;

3. Reasonably foreseeable potential uses of the land and related waters that would be enhanced, foreclosed, or curtailed if the area were included in the NWSRS and values that would be foreclosed or diminished if the area were not designated;
4. Federal, state, tribal, local, public, or other interest in designating or not designating the river;
5. Estimated cost of acquiring necessary lands or interests in lands and administering the area if designated;
6. Ability of the agency to manage and protect the river area or segment as a WSR or other means to protect the identified values other than WSR designation;
7. Historical or existing rights that could be adversely affected with designation;
8. Adequacy of local zoning and other land use controls in protecting the river's outstandingly remarkable values by preventing incompatible development;
9. Consistency of designation with other agency plans, programs, or policies; and
10. Other issues and concerns, if any.

3.2 Suitability Data and Determinations

This section is a discussion of 10 suitability factors in relation to each of the eight river and stream segments determined to be eligible for inclusion in the NWSRS. These factors were described in **Section 2.1**.

The following river and stream segments were evaluated for suitability within the BKFO:

- Chimney Creek;
- East Fork of the Kaweah River;
- Middle Fork of the Kaweah River;
- North Fork of the Kaweah River;
- Lower Kern River;
- South Fork of the Kern River;
- Salinas River; and
- San Joaquin River.

3.2.1 Chimney Creek

Description	From the headwaters to the BLM/private land boundary near Canebrake in the SW¼, SW¼ of Section 9, T25S, R36E (**Figure 3-1**).		
Total River Length	21.5 miles	**Total River Area**	5,850.4 acres
Length on BLM Land	15.5 miles	**Area on BLM Land**	4,497.6 acres
Preliminary Classification	Wild/Recreational		
ORVs	Scenic, Wildlife, Botanical		

Suitability Criteria

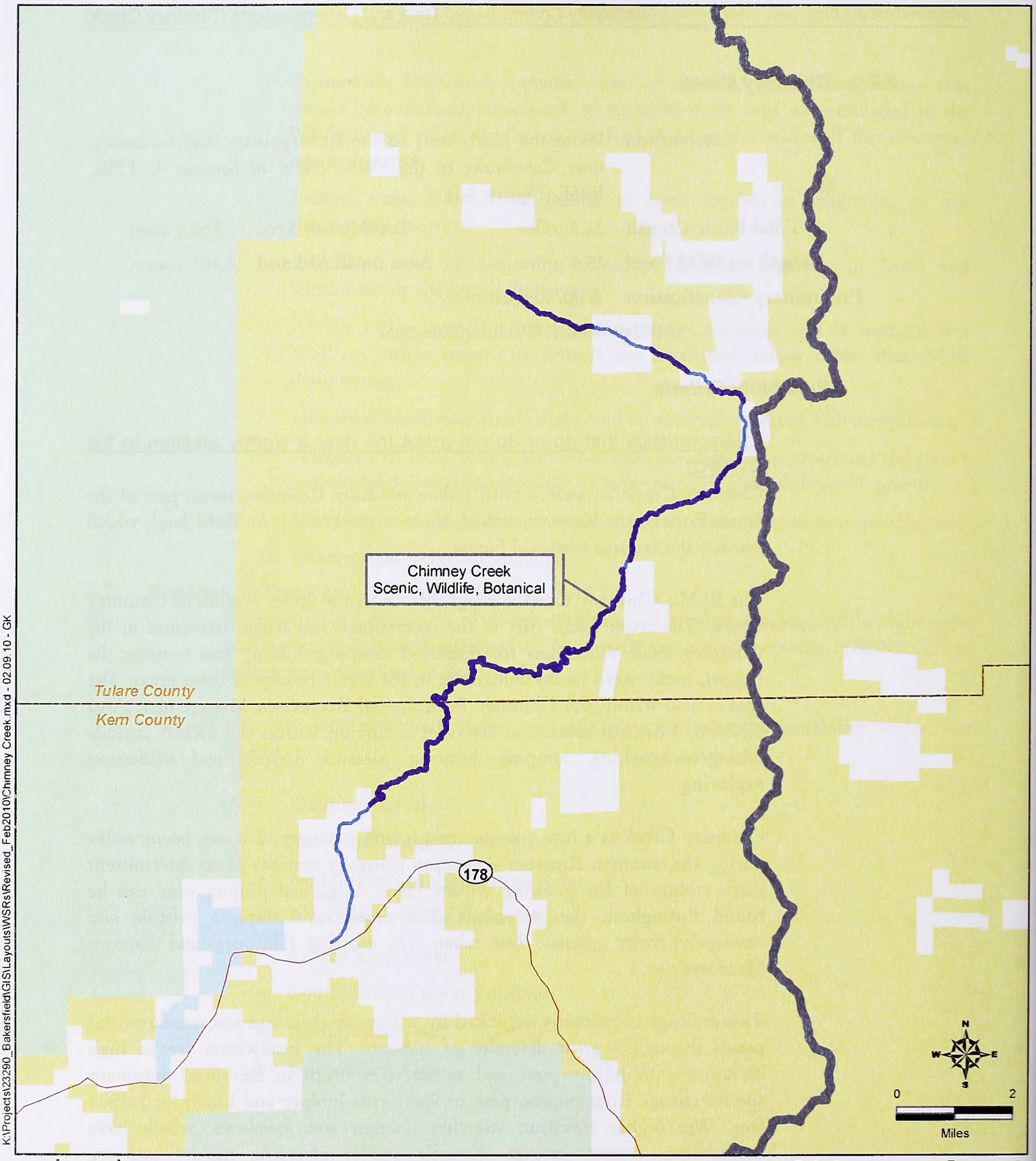
1. Characteristics that do or do not make the river a worthy addition to the NWSRS

   Chimney Creek, located in both Tulare and Kern Counties, forms part of the South Fork of the Kern watershed. Most of the creek is on BLM land, which borders the Sequoia National Forest.

   The BLM's Chimney Creek campground is on the upper reaches of Chimney Creek. The creek forms part of the recreational and scenic attraction in the Chimney Peak Wilderness for dispersed camping, hiking, and hunting. Its rugged, rocky steep banks contribute to the scenic beauty of these areas. The area is also within the Chimney Peak Special Recreation Management Area (SRMA). Principal recreation activities occurring within the SRMA include hiking/backpacking, camping, hunting, pleasure driving, and wilderness exploring.

   Chimney Creek is a low volume stream, and portions of it can become dry during the summer. Riparian vegetation generally consists of an intermittent thick ribbon of low-growing willow trees. Single-leaf pinyon pine can be found throughout the watershed. The creek runs along a pristine and extremely rocky granitic bed when not crossing Chimney and Lamont Meadows.

   This drainage is primarily vegetated by willow thickets and wet meadows and passes through a great diversity of habitats. The headwaters are in high elevation with Jeffrey pine, and as the river drops in elevation, dominant species change from pinyon pine to California juniper and finally to Joshua tree. The higher elevation stretches contain wet meadows, which have meandering, narrow stream channels and overhanging grasses and are examples of what a stream in good condition should look like. The Southwestern willow flycatcher (*Empidonax traillii extimus*), a federally endangered species, depends willow thickets in excellent condition, such as



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Legend

- Kern — County Boundary
- Bakersfield Field Office Boundary
- Carrizo Plain National Monument
- Wild and Scenic Rivers
- Wild and Scenic Rivers on BLM Lands
- Towns/Cities
- Bureau of Land Management
- Forest Service
- National Park Service
- Bureau of Reclamation
- US Fish and Wildlife Service
- Military
- State Lands
- County / City / Regional
- Unclassified

Chimney Creek
Bureau of Land Management
Bakersfield Field Office

Bakersfield, California

Figure 3-1

those found along this creek. Few drainages have as large a population of flycatchers as this one. This habitat at higher elevations is extremely important for mule deer fawning, migrating, and wintering. The long corridor of habitat is an excellent and important migration route for neotropical migrating birds heading to or from the Sierra Nevada or beyond. Some of these species nest along this river system as well.

Chimney Creek flows through four different grazing allotments, which, in combination, are active throughout most of the year. The allotments use both spring and surface waters.

The area is managed as Visual Resource Management (VRM) Class I but is inventoried at VRM Class II and III; the area has a scenic quality category of A. The BLM's VRM system provides a way to identify and evaluate scenic values to determine the appropriate levels of management. VRM management classes may differ from VRM inventory classes, based on management priorities for land uses. The scenic quality rating is part of the VRM inventory process and is one of the factors in determining the appropriate VRM class for the area. The objectives for each VRM class are as follows:

VRM Class I Preserve landscape character. This class provides for natural ecological changes but does not preclude very limited management activity. The level of change to the characteristic landscape should be very low and must not attract attention.

VRM Class II Retain existing landscape character. The level of change to the characteristic landscape should be low. Management activities may be seen but should not attract a casual observer's attention. Any changes must repeat the basic elements of line, form, color, and texture found in the predominant natural features of the characteristic landscape.

VRM Class III Partially retain existing landscape character. The level of change to the characteristic landscape should be moderate. Management activities may attract attention but should not dominate a casual observer's view. Changes should repeat the basic elements found in the predominant natural features of the characteristic landscape.

VRM Class IV Provide for management activities that require major modification of the landscape character. The level of change to the characteristic landscape can be high. Management activities may dominate the view and be the major focus of viewer attention. However, every attempt should be made to minimize the impact of these activities through careful location, minimal disturbance, and repetition of the basic landscape elements.

Source: BLM 1984

The Chimney Creek segment is nearly entirely within the Monache-Walker Pass National Cooperative Land and Wildlife Management Area. BLM land in the Monache-Walker Pass National Cooperative Land and Wildlife Management Area is managed to improve and maintain a diverse assemblage of vegetative communities to benefit wildlife resources and recreational opportunities. Each vegetative community is managed to perpetuate that particular vegetative community and the various wildlife and plant species associated with it. Lands within the Monache-Walker Pass National Cooperative Land and Wildlife Management Area are withdrawn from application under the nonmineral public land laws and from disposition under the homestead, desert land entry, and script selection laws (BLM 1997a).

2. The status of landownership and surface and subsurface minerals use in the area, including the amount of private land involved and associated or incompatible uses

The principal development along the upper river corridor is the BLM's Chimney Creek Campground. A large house complex is readily seen in Lamont Meadows. The slowly expanding rural residential area with surrounding private lands contains rural residences between two and a half and forty acres in size.

Approximately ten rights-of-way exist on surrounding BLM lands.

The creek flows through Mesozoic granitic rocks. There is potential for sand and gravel extraction in the area. There are several mining claims on BLM lands surrounding the creek and a land use permit for an apiary site (beehives).

3. Reasonably foreseeable potential uses of the land and related waters that would be enhanced, foreclosed, or curtailed if the area were included in the NWSRS, and values that would be foreclosed or diminished if the area were not designated

While nothing precludes overlapping Congressional designations (such as Wilderness and WSR), management as wilderness provides similar, if not more stringent, management protections. Because most of Chimney Creek is within Chimney Peak Wilderness, the wilderness area and the WSR could each benefit from the existence of the other. For example, if designated, a federal-reserve water right would be appropriated to ensure an instream flow at the level necessary to support and if possible enhance the ORVs. The wilderness area could benefit from the protection of the ORVs because they help support the wilderness characteristics in the area.

The area is also within the Chimney Peak SRMA. Activities within the SRMA are not likely to diminish the ORVs associated with Chimney Creek.

Because of the wilderness designation, it is unlikely that the ORVs would be foreclosed or diminished if the area were not designated.

4. Federal, state, tribal, local, public, or other interest in designating or not designating the river

   None known.

5. Estimated cost of acquiring necessary lands and interests in lands and in administering the area if designated

   The cost of administering the area if designated is not likely to increase. Current BLM management on nonwilderness within the study corridor is minimal, and minimal management is expected to be required if the segment were designated.

6. Ability of the agency to manage and protect the river area or segment as a WSR or other means to protect the identified values other than WSR designation

   While nothing precludes overlapping Congressional designations (such as Wilderness and WSR), management as wilderness provides similar, if not more stringent, management protections. A large portion of the WSR corridor is within the Chimney Peak Wilderness, and management of the wilderness area is commensurate with protection of the ORVs. BLM wilderness areas are managed according to BLM Manual 8560, *Management of Designated Wilderness Areas* (BLM 1983). Wilderness areas allow for continued use of valid existing rights (i.e., rights or activities that existed when the area became a wilderness study area [WSA]).

   The area is also within the Monache-Walker Pass National Cooperative Land and Wildlife Management Area to protect wildlife and vegetation habitats.

   There has been minimal management on the part of the BLM in the area, and the ORVs are still able to exist. Minimal management would be required if designated.

7. Historical or existing rights that could be adversely affected with designation

   Designation would not preclude valid existing rights from continuing. Grazing would still be permitted to the extent that it occurs at the time of designation, should the segment be designated.

8. Adequacy of local zoning and other land use controls in protecting the river's ORVs by preventing incompatible development

   The segment flows through both Tulare and Kern Counties. Within Tulare County, Chimney Creek passes through only small portions of private land, all of which is surrounded by wilderness. It is unlikely that any incompatible development would occur in these areas.

   The private land next to the study corridor within Kern County (at the downstream end of the segment, near Canebrake) is zoned as Category A

(Exclusive Agriculture District). The purpose of the Exclusive Agriculture District is to designate areas suitable for agricultural uses and to prevent the encroachment of incompatible uses onto agricultural lands. Uses are limited primarily to agriculture and other activities compatible with agricultural uses (Kern County 2008).

9. Consistency of designation with other agency plans, programs, or policies
Designation would be consistent with management of the surrounding wilderness areas on BLM and US Forest Service land. Because the small portion of the study corridor on nonwilderness land requires minimal management, WSR designation would be compatible.

10. Other issues and concerns, if any
None.

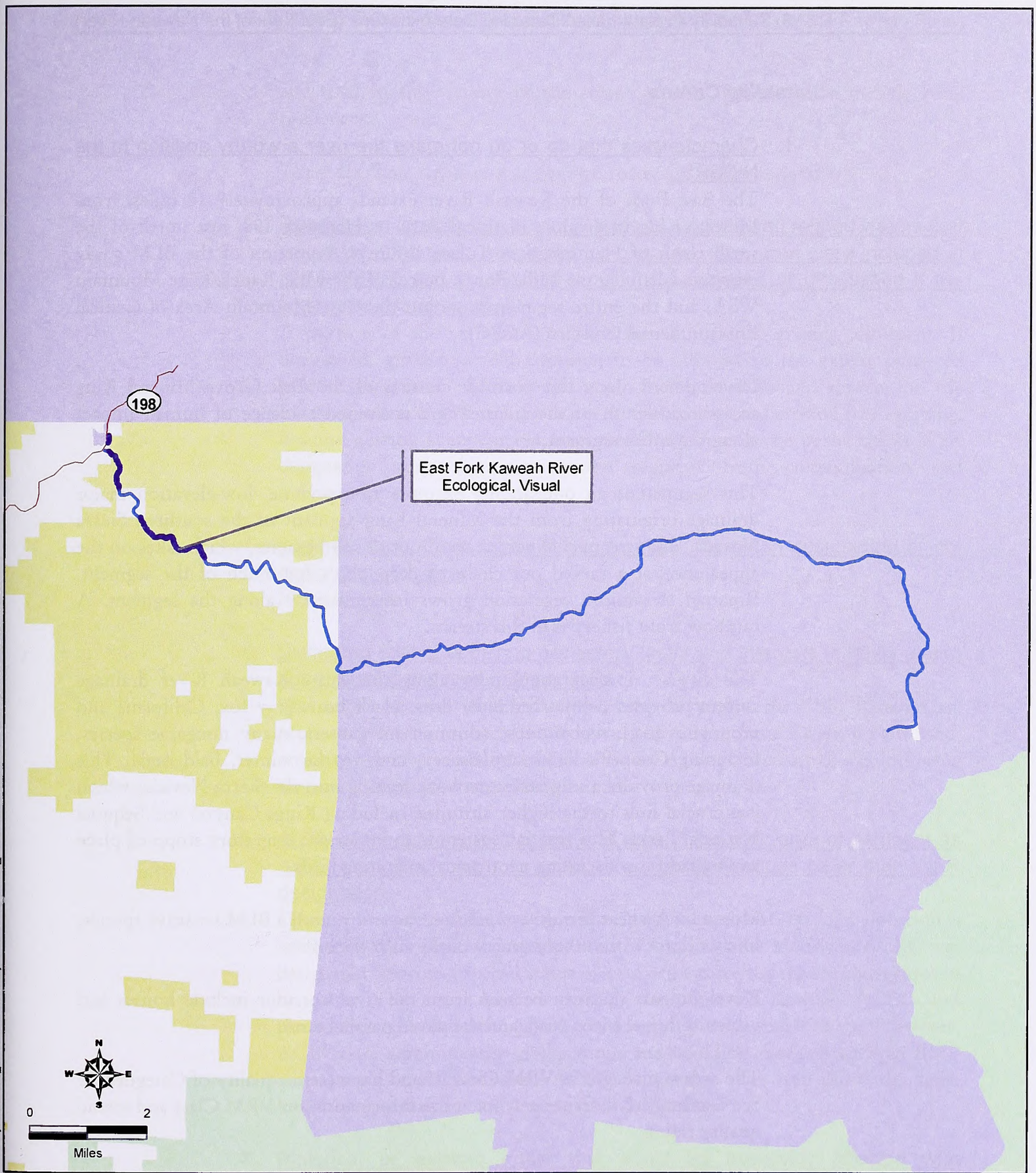
Preliminary Determination

Most of the Chimney Creek segment under study flows through designated wilderness and the Monache-Walker Pass National Cooperative Land and Wildlife Management Area. The ORVs receive protection from wilderness designation by prohibiting most forms of development and the National Cooperative Land and Wildlife Management Area. This segment is preliminarily determined **not suitable.**

3.2.2 East Fork of the Kaweah River

Description	T17S, R29E, Section 37, SW¼; Section 38 NE¼, SE¼; Section 10 S½; Section 39 NE¼ (**Figure 3-2**).		
Total River Length	21.8 miles	**Total River Area**	6,411.4 acres
Length on BLM Land	2.3 miles	**Area on BLM Land**	762.3 acres
Preliminary Classification	Recreational[2]		
ORVs	Ecological, Visual		

[2]The preliminary classification for the East Fork of the Kaweah River was identified as Scenic in the 1997 Caliente RMP (BLM 1997a). Upon further review by the BLM interdisciplinary team during this suitability study, however, the preliminary classification was changed to Recreational due to the presence of a road that parallels most of the segment.



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Legend

- Kern County Boundary
- Bakersfield Field Office Boundary
- Carrizo Plain National Monument
- Wild and Scenic Rivers
- Wild and Scenic Rivers on BLM Lands
- Towns/Cities
- Bureau of Land Management
- Forest Service
- National Park Service
- Bureau of Reclamation
- US Fish and Wildlife Service
- Military
- State Lands
- County / City / Regional
- Unclassified

East Fork Kaweah River
Bureau of Land Management
Bakersfield Field Office

Bakersfield, California

Figure 3-2

Suitability Criteria

1. Characteristics that do or do not make the river a worthy addition to the NWSRS

   The East Fork of the Kaweah River extends approximately 18 miles, from Mineral King in Sequoia National Park to Highway 198, just north of the small town of Hammond in Tulare County. A portion of the BLM study corridor falls into the Milk Ranch parcel of the Milk Ranch/Case Mountain WSA, and the entire segment is within the Case Mountain Area of Critical Environmental Concern (ACEC).

   Development along this corridor consists of the Oak Grove/Mineral King access road south of the river. There is limited evidence of human impact along the entire segment.

   This segment is an outstanding example of a pristine, low-elevation major drainage originating from the Mineral King segment of the southern Sierra Nevada. The stream channel is carved out of solid granite, which takes on the appearance of a carved out chain of deep pools for much of the segment. Riparian streamside vegetation grows intermittently along the segment. A rainbow trout fishery is in this stream.

   The diverse riparian community along the entire Kaweah River drainage system provides habitat for mule deer, black bear, gray fox, California and mountain quail, wood duck, common mergansers, many nongame species, including Cooper's hawk and osprey, and, in the winter, bald eagle. This drainage provides a migratory network leading into the Sierra Nevada, which is a crucial link to the higher altitudes, including Kings Canyon and Sequoia National Parks. This riparian system is an important migratory stopping place and corridor for declining neotropical migrating birds.

   Mouse buckwheat (*Eriogonum nudum* var. *murinum*), a BLM sensitive species, likely occurs within this segment of the river corridor.

   Developments that can be seen from the river corridor include houses and cabins, a flume, a jeep road, and the paved parallel road.

   The area is managed as VRM Class III and has a scenic quality of Category A. See **Section 3.2.1**, Criteria 1, for more information on VRM Class and scenic quality rating.

2. The status of landownership and surface and subsurface minerals use in the area, including the amount of private land involved and associated or incompatible uses

   Water power generation and production is an important industry in this area. Associated with a Federal Power Commission Order is a conduit, penstock,

and road in the vicinity of the river corridor. Private lands include rural residences.

There are three rights-of-way for two roads and a telephone line.

3. Reasonably foreseeable potential uses of the land and related waters that would be enhanced, foreclosed, or curtailed if the area were included in the NWSRS, and values that would be foreclosed or diminished if the area were not designated

   A portion of the segment is within the Oak Grove grazing allotment. If designated, grazing would continue to be allowed to the extent practiced before designation. Because the river is the main water source for the livestock, there is potential for water contamination and erosion from grazing. Because grazing at its current level would continue to be permitted, a WSR designation may not protect the segment from contamination and sedimentation.

4. Federal, state, tribal, local, public, or other interest in designating or not designating the river

   None known.

5. Estimated cost of acquiring necessary lands and interests in lands and in administering the area if designated

   The upper portion of the study corridor is within the Milk Ranch Case Mountain WSA and, because of the rugged terrain and adjacent private land, access to the river on BLM land is difficult. As such, the cost of administering the area if designated would be minimal.

6. Ability of the agency to manage and protect the river area or segment as a WSR or other means to protect the identified values other than WSR designation

   The entire river corridor is within the Case Mountain ACEC, and a portion is within the Milk Ranch/Case Mountain WSA. The Case Mountain ACEC was designated to protect special status plant species as well as the sequoia groves in the area. The entire area is within the proposed Kaweah ACEC and protections afforded the ACEC could also protect the ORVs. However, ACECs are administrative designations and could be repealed with an RMP amendment or revision; thus ACEC designation does not afford the same long-lasting protection as congressional designation.

7. Historical or existing rights that could be adversely affected with designation

   Designation would not preclude valid existing rights from continuing. Grazing would still be permitted to the extent that it occurs at the time the segment is designated.

8. Adequacy of local zoning and other land use controls in protecting the river's ORVs by preventing incompatible development

   The majority of the land surrounding the river is zoned as AF, Foothill Agricultural Zone, while a smaller stretch is zoned AE-80, Exclusive Agricultural Zone- 80 acre minimum. Both of these zones are designed to protect agriculture from encroachment from other types of uses. Two small stretches near the confluence of the Middle Fork Kaweah River (each < 100ft) are zoned R-A-217, Rural Residential Zone and F-1, Primary Floodplain Zone. The Rural Residential Zone allows for mostly single family homes on lots larger than 600 square feet. The Primary Flood Plain Zone protects life and property from flooding by establishing structures to prevent the overflow of flood waters. Agricultural and wildlife uses with temporary structures are allowed in the Primary Flood Zone (Tulare County 2005).

9. Consistency of designation with other agency plans, programs, or policies

   Upstream of the BLM segment is private land (see Criteria 8 for zoning information), and upstream of the private land, the East Fork of the Kaweah River flows on NPS land in Sequoia National Park. The NPS portion of the river from the park boundary to the headwaters was determined to be suitable for inclusion in the NWSRS (NPS 2006).

10. Other issues and concerns, if any

    None.

Preliminary Determination

Most of the East Fork of the Kaweah River segment under study flows through a WSA and is within a proposed ACEC. While WSR designation would be compatible with the management of these areas, protection of the ecological ORV requires a larger area of protection than WSR designation can afford.

Similarly, the scenic value on BLM land is protected via the WSA. While development that would obstruct the scenic value is unlikely to occur on private land, the BLM does not have the authority to manage for the preservation of the scenic value on private land, and the scenic value could be degraded, even by development that does not occur on BLM land. Although the values associated with this segment are worthy of protection, this protection should be provided administratively for a broader area of protection. This segment is preliminarily determined to be **not suitable.**

3.2.3 Middle Fork of the Kaweah River

Description	Section 37, T17S, R29E (**Figure 3-3**).		
Total River Length	18.8 miles	**Total River Area**	5,415.7 acres
Length on BLM Land	0.12 mile	**Area on BLM Land**	51.8 acres
Preliminary Classification	Recreational		
ORVs	Botanical, Visual		

Suitability Criteria

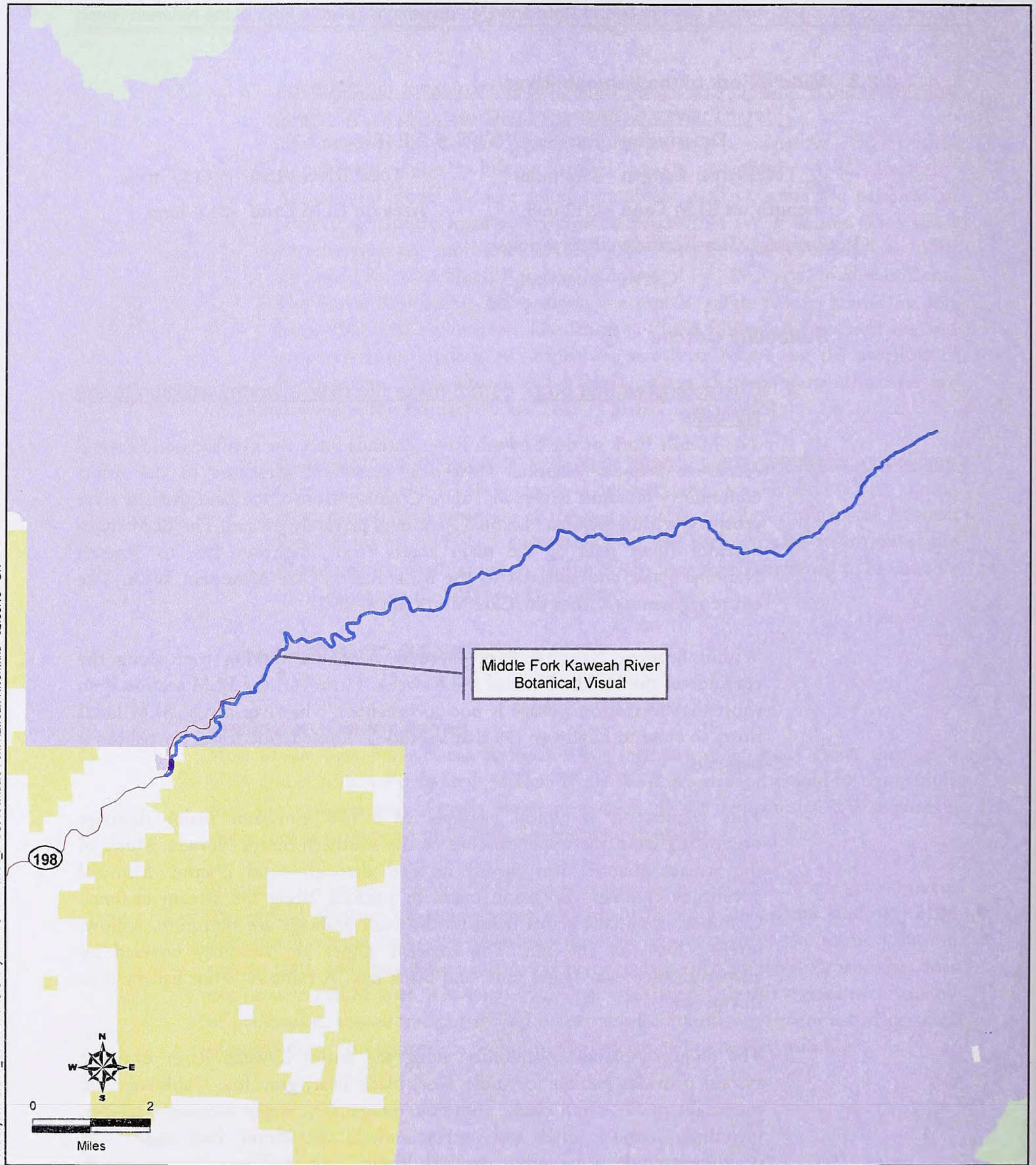
1. Characteristics that do or do not make the river a worthy addition to the NWSRS

   The Middle Fork of the Kaweah River extends from the confluence of several creeks in Sequoia National Park near Redwood Meadows to the resort community of Three Rivers in Tulare County. Most of the land that the river crosses is within Sequoia National Park or is privately owned. The BLM study corridor flows next to the main access road, Highway 198, to Sequoia National Park, and adjacent to the Milk Ranch/Case Mountain WSA. The entire segment is within the Case Mountain ACEC.

   Within Sequoia National Park there is a popular hiking trail along the corridor of the Middle Fork of the Kaweah. However, the BLM section is so short that recreational usage is not documented. The river across BLM lands flows so close to Highway 198 that solitude is limited, but access for fishing is possible.

   This segment is a typical example of a low elevation major drainage originating from the upper reaches of the southern Sierra Nevada. Much of the stream channel has carved its bed through solid granite. Minimal streamside riparian vegetation exists in pockets along the stream channel. Common dominant plants from the Kaweah drainage are sycamore, willow, interior live oak and ash. The adjacent slopes are variously covered by chaparral, blue oak/digger pine, and black oak. A rainbow trout fishery is in this stream.

   The diverse riparian community along the entire Kaweah River drainage system provides habitat for mule deer, black bear, gray fox, California and mountain quail, wood duck, common mergansers, many nongame species, including Cooper's hawk and osprey, and, in the winter, bald eagle. This drainage provides a migratory network leading into the Sierra Nevada, which is a crucial link to the higher altitudes, including Kings Canyon and Sequoia National Parks. This riparian system is an important migratory stopping place and corridor for declining neotropical migrating birds.



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Legend

- Kern — County Boundary
- Bakersfield Field Office Boundary
- Carrizo Plain National Monument
- Wild and Scenic Rivers
- Wild and Scenic Rivers on BLM Lands
- Towns/Cities
- Bureau of Land Management
- Forest Service
- National Park Service
- Bureau of Reclamation
- US Fish and Wildlife Service
- Military
- State Lands
- County / City / Regional
- Unclassified

Middle Fork Kaweah River
Bureau of Land Management
Bakersfield Field Office

Bakersfield, California

Figure 3-3

Mouse buckwheat (*Eriogonum nudum* var. *murinum*), a BLM sensitive species, and Kaweah brodiaea (*Brodiaea insignis*), a state of California endangered species (California Department of Fish and Game 2009b), occur on BLM land within the river corridor.

This segment of the Middle Fork of the Kaweah River falls within the ethnographical boundary of the Patwisha, a Western Mono Native American group. Two prehistoric sites are known along this short segment of the Middle Fork of the Kaweah River. No formal evaluation of the prehistoric sites has been completed to determine their significance at present. There are no known historic sites of significance on BLM land along this river corridor. The area is regarded as sensitive for the potential high occurrence of both prehistoric and historic resources.

The area is managed as VRM Class III and has a scenic quality rating of A. See **Section 3.2.1**, Criteria 1, for more information on VRM Class and scenic quality rating.

2. The status of landownership and surface and subsurface minerals use in the area, including the amount of private land involved and associated or incompatible uses

Surrounding private lands include residential and rural residential, with parcels ranging in size from half an acre to twenty acres. Approximately 0.2 mile of the Middle Fork of the Kaweah River flows through the corner of a grazing allotment that is used from April 1 to September 30 each year.

There are no mining claims and only one right-of-way for a water facility. There are withdrawals on adjoining BLM land for power projects, including a conduit, penstock, roads, and a ditch. The following developments can be seen from the river corridor: houses, a gauging station, a power line running parallel to the river, a flume, parallel trails, and the paved road and the ending of a primitive road.

3. Reasonably foreseeable potential uses of the land and related waters that would be enhanced, foreclosed, or curtailed if the area were included in the NWSRS and values that would be foreclosed or diminished if the area were not designated

A portion of the segment is within the Oak Grove grazing allotment. If designated, grazing would continue to be allowed to the extent practiced before designation.

4. Federal, state, tribal, local, public, or other interest in designating or not designating the river

None known.

5. Estimated cost of acquiring necessary lands or interests in lands and of administering the area if designated

   The study segment is on BLM land. Upstream of the study corridor, the river flows through Sequoia National Park on US Department of the Interior NPS land. Because of the short segment length, management costs would be minimal.

6. Ability of the agency to manage and protect the river area or segment as a WSR, or other means to protect the identified values other than WSR designation

   It would be difficult for the BLM to ensure the preservation of the botanical and visual ORVs. This is because of the short segment length and because activities on adjacent land outside of the BLM's control could negatively impact the ORVs in the future.

   The segment is entirely within the proposed Kaweah ACEC. Protections afforded the ACEC could also protect the ORVs. However, ACECs are administrative designations and could be repealed with an RMP amendment or revision. Thus ACEC designation does not afford the same long-lasting protection as a designation by Congress.

7. Historical or existing rights that could be adversely affected with designation

   Designation would not preclude valid existing rights from continuing. Grazing would still be permitted to the extent that it occurs at the time the segment is designated.

8. Adequacy of local zoning and other land use controls in protecting the river's ORVs by preventing incompatible development

   Private land surrounding BLM land within Tulare County is zoned as F-1, Primary Flood Plain Zone. This zone protects life and property from flooding by establishing structures to prevent the overflow of flood waters. Agricultural and wildlife uses with temporary structures are permitted (Tulare County 2005).

9. Consistency of designation with other agency plans, programs, or policies

   Upstream of the BLM segment, the Middle Fork of the Kaweah River flows on NPS land in Sequoia National Park. The NPS section extending from the boundary of the park to the headwaters was determined suitable for inclusion in the NWSRS (NPS 2006).

10. Other issues and concerns, if any

    None.

Preliminary Determination

The Middle Fork of the Kaweah River segment that is under study flows through an ACEC. While WSR designation would be compatible with the management of the ACEC, protection of the ecological ORV requires a larger area of protection than WSR designation can afford.

Because the BLM does not have the authority to manage for the preservation of scenic value on adjacent private land, and the scenic value could be degraded, even by development that does not occur on BLM land, the BLM would be unable to ensure the protection of a scenic ORV on such a short segment. This segment is preliminarily determined **not suitable.**

3.2.4 North Fork of the Kaweah River

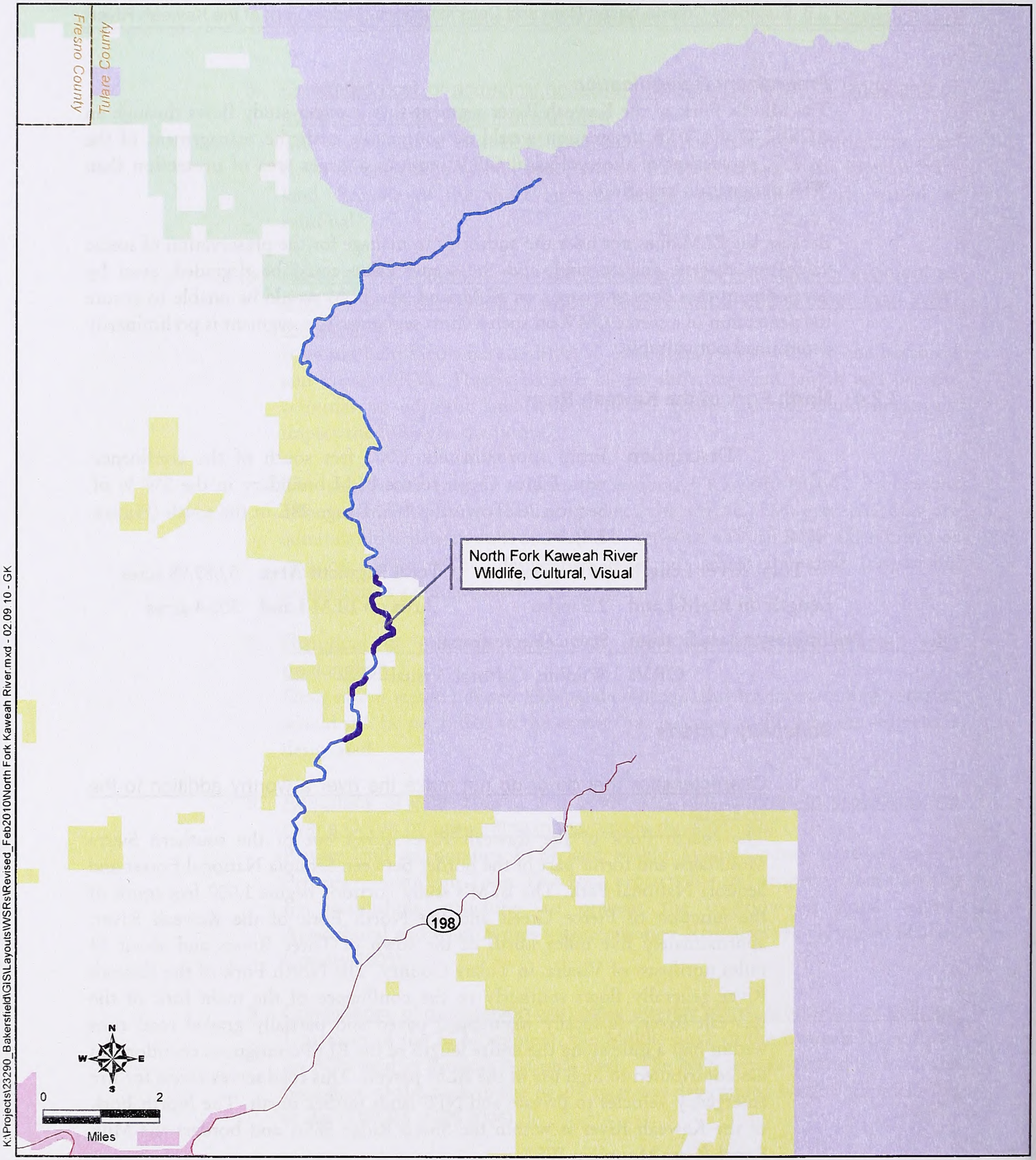
Description	From approximately 1,000 feet south of the confluence with Pierce Creek to the BLM boundary in the SW ¼ of Section 26, Township 16S, Range 28E in the south (**Figure 3-4**).		
Total River Length	20.7 miles	**Total Segment Area**	5,689.98 acres
Length on BL M Land	2.5 miles	**Area on BLM Land**	800.4 acres
Preliminary Classification	Scenic/Recreational		
ORVs	Wildlife, Cultural, Visual		

Suitability Criteria

1. Characteristics that do or do not make the river a worthy addition to the NWSRS

   The North Fork of the Kaweah River flows out of the southern Sierra Mountains and forms part of the border between Sequoia National Forest and Sequoia National Park. The BLM's study corridor begins 1,000 feet south of the junction of Pierce Creek and the North Fork of the Kaweah River, approximately five miles north of the town of Three Rivers and about 24 miles northeast of Visalia, in Tulare County. The North Fork of the Kaweah River generally flows southerly to the confluence of the main fork of the Kaweah River. A locally maintained paved and partially graded road runs within half a mile along the entire length of the BLM contiguous corridor and has contributed to high use of the BLM parcels. This road serves access for fire emergency vehicles to private and NPS lands farther north. The North Fork of the Kaweah River is within the Sheep Ridge WSA and borders the Milk Ranch/Case Mountain WSA.

   The diverse riparian community along the entire Kaweah River drainage system provides habitat for mule deer, black bear, gray fox, California and



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Legend

- Kern — County Boundary
- Bakersfield Field Office Boundary
- Carrizo Plain National Monument
- Wild and Scenic Rivers
- Wild and Scenic Rivers on BLM Lands
- Towns/Cities
- Bureau of Land Management
- Forest Service
- National Park Service
- Bureau of Reclamation
- US Fish and Wildlife Service
- Military
- State Lands
- County / City / Regional
- Unclassified

North Fork Kaweah River
Bureau of Land Management
Bakersfield Field Office

Bakersfield, California

Figure 3-4

mountain quail, wood duck, common mergansers, many nongame species, including Cooper's hawk and osprey, California species of special concern, and, in the winter, bald eagle. This drainage provides a migratory network leading into the Sierra Nevada, which is a crucial link to the higher altitudes, including Kings Canyon and Sequoia National Parks. This riparian system is an important migratory stopping place and corridor for neotropical migrating birds, whose numbers are declining.

The area ethnographically is at an interface between two Native American cultures. The Waksachi, a Mono group, were centrally located in the Epsom Valley area, but they also used lands to the south along the North Fork of the Kaweah within the northern portion of the river corridor. The Wukchumni, a Yokuts group occupied lands on the southern portion of the corridor along the Kaweah River, extending from the vicinity of Three Rivers community to the west near Lemoncove.

The North Fork of the Kaweah River was the scene of a utopian socialism experiment between 1884 and 1891. This was generally referred to as the Kaweah Colony but also was known as the Kaweah Cooperative Commonwealth. It has been described as a form of German socialism that envisioned an idealistic cooperative colony in which the working members would own and control production and profit accordingly. By 1892, the colony had disbanded, and its members had moved away.

Within a quarter-mile of the river corridor there are four known prehistoric sites and one historic site (Advance). These sites have not been formally evaluated, so their significance is uncertain. The remains at the Advance Site appear to lack physical integrity, but the site does possess local historic interest. The river corridor is regarded as culturally sensitive for the occurrence of prehistoric and historic resources.

The river corridor is within three grazing allotments and the North Fork SRMA. Principal activities in the area include water play, kayaking, fishing, and hunting. Two sites service the area: Advance Site and Cherry Falls, which are currently closed due to safety concerns.

The river corridor is also within the North Fork of the Kaweah River Special Management Area to protect riparian and cultural resources and sensitive vegetation.

The area is managed as VRM Class II and has a scenic quality rating of A. See **Section 3.2.1**, Criteria 1, for more information on VRM Class and scenic quality rating.

2. The status of landownership and surface and subsurface minerals use in the area, including the amount of private land involved and associated or incompatible uses

Metasedimentary rock has potential for tungsten, but there are no known occurrences on BLM land.

Surrounding private lands include rural residences on sites ranging from two-and-a-half acres to forty acres. Livestock graze on private lands and on several BLM allotments on the lands surrounding the river. The North Fork of the Kaweah flows through the eastern edge of allotment 00017. This pasture is unfenced from the river for approximately 1.75 miles and is seasonally grazed from October 1 to July 30. The remaining half mile is fenced from livestock. In allotment 00102, cattle can be grazed at any time of the year but usually during winter and spring. Cattle will water at the river in the limited accessible riverbank stretches. The river also flows through a quarter-mile of allotment 00095. It is accessible for the full length to cattle that graze from March 1 to June 30.

There are four rights-of-way on BLM land along the North Fork of the Kaweah River for a fire break, two power transmission lines, and a road. From the river corridor the following developments are visible: old mining buildings (in the northernmost section of BLM lands), primitive camping and picnic sites, trails that parallel and end at the river, and the paved and gravel road that parallels the river.

Land in the Sequoia and Kings Canyon National Parks, just southeast of the river is managed as wilderness. The region's topographic variation, its rugged rocky terrain, and vegetation variety combine to create areas of seclusion. However, military aircraft periodically fly over the area. Most of the users are local residents; regional and national visitors are drawn to the nearby National Park lands.

The river is used as a municipal water source for the community of Three Rivers.

3. Reasonably foreseeable potential uses of the land and related waters that would be enhanced, foreclosed, or curtailed if the area were included in the NWSRS and values that would be foreclosed or diminished if the area were not designated

If designated, grazing would continue to be allowed to the extent practiced before designation. Because the river serves as a water source for the livestock, there is potential for water contamination and erosion from grazing. Because grazing at its current level would continue to be permitted, a WSR designation may not protect the segment from contamination and sedimentation.

If the area were not designated, an instream flow to protect the ORVs would not be appropriated. If water projects were permitted in the area, habitat could be lost from inundation or lack of water, as the case may be. Inundation could also affect the visual and cultural values if covered. Note that there are no reasonably foreseeable significant water development projects in the area.

4. Federal, state, tribal, local, public, or other interest in designating or not designating the river

None known.

5. Estimated cost of acquiring necessary lands or interests in lands and of administering the area if designated

Concerns over public safety at the Advance Site and Cherry Falls recreation areas have lead to their closure. If these areas were to be reopened, designation could attract attention and unwanted activity again. The BLM may experience increased costs if this were to occur. However, at present, little management is required by the BLM.

If the segment were to be designated, the BLM would be interested in acquiring adjacent lands to improve manageability of the designated segment.

6. Ability of the agency to manage and protect the river area or segment as a WSR or other means to protect the identified values other than WSR designation

The North Fork of the Kaweah River is within the Sheep Ridge WSA and borders the Milk Ranch/Case Mountain WSA. WSA management is commensurate with protection of the ORVs. However, if Congress were to release the area from wilderness study, the protection would default to underlying prescriptions in the RMP. Underlying prescriptions may or may not be sufficient to protect the ORVs.

Historic ORVs are not ecosystem dependent. Cultural resources and historic values associated with the river segment are protected and regulated by a number of laws, regulations, executive orders, programmatic agreements, and other requirements. The principal federal law addressing cultural resources is the National Historic Preservation Act of 1966, as amended (16 US Code, Section 470) and its implementing regulations (36 Code of Federal Regulations, Part 800). These regulations, commonly referred to as the Section 106 process, describe the procedures for identifying and evaluating historic properties, for assessing the effects of federal actions on historic properties and for project proponents consulting with appropriate agencies to avoid, reduce, or minimize adverse effects.

The study area corridor is within the proposed Kaweah ACEC (800.4 acres), which would be designated to protect giant sequoia groves, limestone caves and other karst features, riparian areas, and other sensitive biological and

cultural resources. Protective management measures include seasonally restricting public access to specific recreation sites, closing the area to motorized activities (except for North Fork Drive), and restricting mechanized activities to designated routes.

7. Historical or existing rights that could be adversely affected with designation
   Designation would not preclude valid existing rights from continuing. Grazing would still be permitted to the extent that it occurs at the time of designation.

8. Adequacy of local zoning and other land use controls in protecting the river's ORVs by preventing incompatible development
   This segment flows through the Extensive Agriculture Zone district in Tulare County. Unless the area were rezoned, incompatible development is unlikely to occur on adjacent private land.

9. Consistency of designation with other agency plans, programs, or policies
   Immediately upstream of the segment, the North Fork of the Kaweah River is bordered on the west bank by BLM land and on the east bank by NPS land in Sequoia National Park. It then turns eastward and forms the border of Sequoia National Forest and Sequoia National Park. The NPS did not determine the North Fork of the Kaweah River to be suitable (NPS 2006).

10. Other issues and concerns, if any
    The water quality of the area is fair. In drought times, coliform and fecal coliform contamination is high. The river is used as a municipal water source for the community of Three Rivers.

Preliminary Determination

The segment is located within the proposed Kaweah ACEC, which provides protections against adverse impacts from human use. Continued management of the area as VRM Class II would further deter incompatible development and protect the visual resources. The study corridor is entirely within grazing allotments, and grazing is contributing to water contamination. Because grazing would continue to be permitted if the segment were designated, water contamination would likely continue.

The BLM is committed to managing the area for the protection of the ORVs; the preliminary determination for this segment is **suitable**, with a recommended classification of **recreational**.

3.2.5 Lower Kern River

Description	From the BLM land boundary near Lake Isabella to the BLM/US Department of Agriculture, National Forest Service land boundary in the NW¼, NW¼ of Section 12, T27S, R32E (**Figure 3-5**).		
Total River Length	39.1 miles	**Total River Area**	11,248.16 acres
Length on BLM Land	3.2 miles	**Area on BLM Land**	877.4 acres
Preliminary Classification	Recreational		
ORVs	Recreational, Wildlife, Historic		

Suitability Criteria

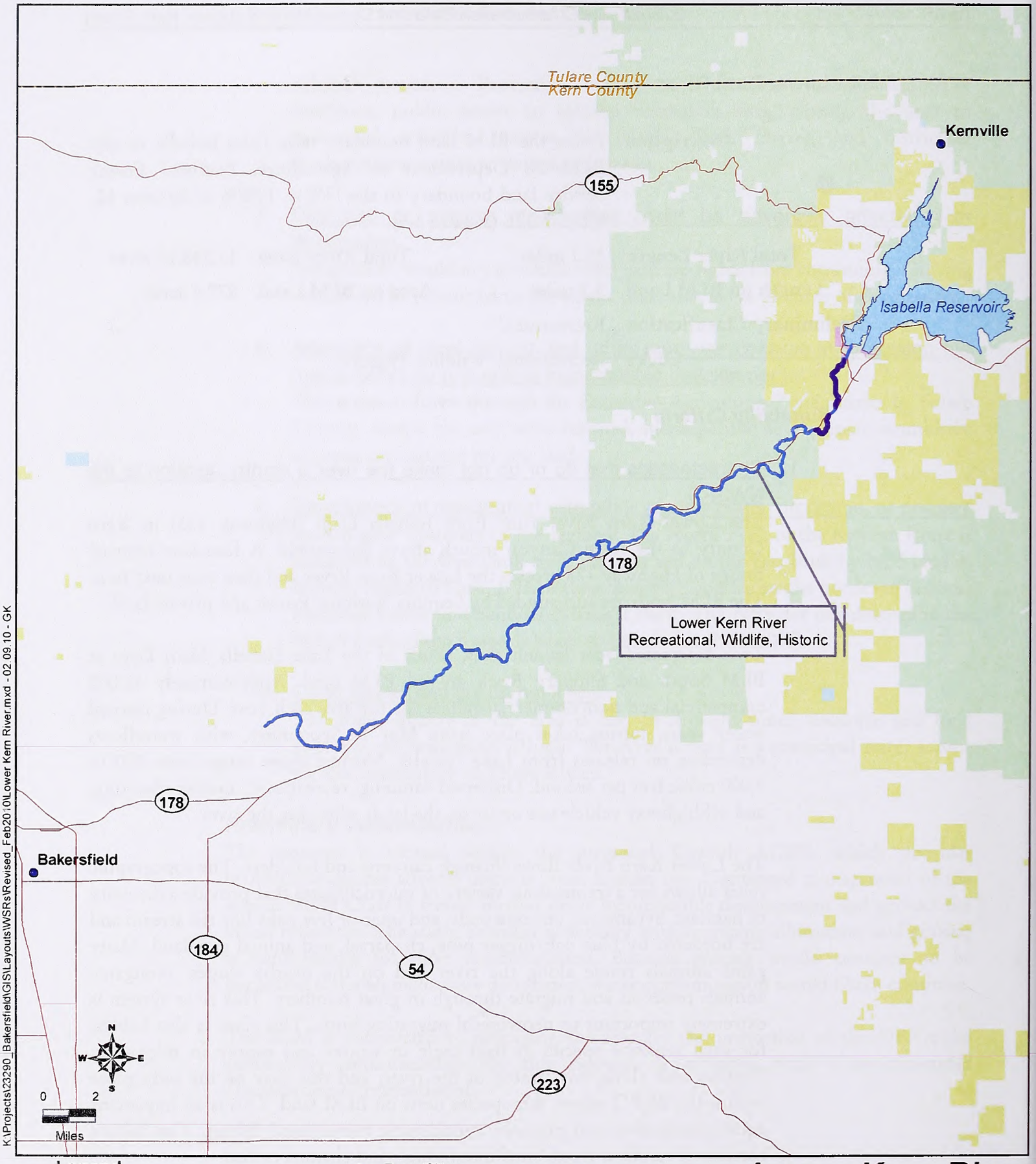
1. Characteristics that do or do not make the river a worthy addition to the NWSRS

   The Lower Kern River runs from Isabella Dam (Highway 155) in Kern County to the Kern Canyon mouth above Bakersfield. A four-lane freeway bridge of Highway 178 crosses the Lower Kern River and then runs next to it. The BLM lands are surrounded by Sequoia National Forest and private land.

   Two designated boat launch sites, south of the Lake Isabella Main Dam at BLM South and Slippery Rock are on BLM land. Approximately 12,000 commercial and noncommercial rafters use the area each year. During normal water years, rafting takes place from May to September, with waterflows depending on releases from Lake Isabella. Normal flows range from 800 to 3,000 cubic feet per second. Dispersed camping, recreational mining, shooting, and off-highway vehicle use occur on the lands adjoining the river.

   The Lower Kern River flows through canyons and boulders. The topographic relief allows for a tremendous variety of microclimates that provide a diversity of habitats. Sycamores, cottonwoods, and interior live oaks line the stream and are bordered by blue oak/digger pine, chaparral, and annual grassland. Many game animals reside along the river and on the nearby slopes. Nongame animals reside in and migrate through in great numbers. This river system is extremely important to neotropical migrating birds. This river is also habitat for such sensitive species as bald eagle in winter and osprey in migration. Dippers nest along this stretch of the river, and this may be the only place within the BKFO where this species nests on BLM land. This is an important aquatic ecosystem and provides considerable recreational fishing. The fishery consists of rainbow trout, smallmouth bass, and channel catfish.

   Connected to the Lower Kern River is a large wet meadow complex east of Highway 178 and west of the town of Lake Isabella. It is the only natural



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Legend

- Kern — County Boundary
- Bakersfield Field Office Boundary
- Carrizo Plain National Monument
- Wild and Scenic Rivers
- Wild and Scenic Rivers on BLM Lands
- Towns/Cities
- Bureau of Land Management
- Forest Service
- National Park Service
- Bureau of Reclamation
- US Fish and Wildlife Service
- Military
- State Lands
- County / City / Regional
- Unclassified

Lower Kern River
Bureau of Land Management
Bakersfield Field Office

Bakersfield, California

Figure 3-5

wetland meadow downstream of Lake Isabella. One California species of concern, tricolored blackbird (*Agelaius tricolor*), occurs here. This large wet meadow adds substantially to the biodiversity of the Isabella area. A willow patch at the southwest corner of the meadow and near the confluence of the Lower Kern may be occupied by southwestern willow flycatcher (*Empidonax traillii extimus*), a federally endangered and California endangered species.

Historically, the area was important for mineral resources. Initial settlement in the Keyesville area came with the discovery of gold by Richard M. Keyes in the mid-1850s. Remnants of this early mining is evident along the Lower Kern River corridor. Due to the poor condition of historic resources along the river corridor, there are no known sites of National Register of Historic Places (NRHP) quality sites remaining within or immediately adjoining the river.

This segment of the river falls within the Tubatulabal Indian territory. The river has a high occurrence of prehistoric resources, ranging from food processing to rock art sites. Although no prehistoric sites have been formally found eligible for listing on the NRHP on the BLM land segment, it is highly probable that sites of this quality are present on BLM land. One known pictograph site on a segment of private land is considered significant.

The area is managed as VRM Class II and has a scenic quality of B+. See **Section 3.2.1**, Criteria 1, for more information on VRM Class and scenic quality rating.

2. The status of landownership and surface and subsurface minerals use in the area, including the amount of private land involved and associated or incompatible uses

After discovery of placer gold in the Kern River in the spring of 1854, miners stampeded to the area. The rush continued through 1855. Soon hardrock gold was also discovered. By 1856 the first mill to recover gold was erected in Keyesville. Over the years a number of mills were erected along the Kern River to serve the mines of Keyesville, only to be destroyed by the floods of 1861-1862. In 1865 a twenty-stamp gold mill was built on the river. Numerous other mills were also built along the river, but their location is unknown. A stamp mill associated with the Mammoth Mine stood on the west bank of the river in the southeast quarter of Section 35 as late as 1959. Gold continues to be recovered from gravel in the bed and banks of the river by various placer mining techniques. There are mining claims on nearby BLM lands.

Surrounding private lands contain rural residences, with parcels ranging in size from one to five acres. Livestock graze on surrounding private lands and on BLM lands bordering the river, from March 1 to May 31. There are ten rights-of-way for power lines, roads, a drainage easement, and a gauging station.

3. Reasonably foreseeable potential uses of the land and related waters that would be enhanced, foreclosed, or curtailed if the area were included in the NWSRS and values that would be foreclosed or diminished if the area were not designated

Water flow through this stretch of river depends on releases from the Lake Isabella Dam. While designation would provide the BLM with an instream flow water right to protect the ORVs, it would be junior to any existing water rights in the area.

4. Federal, state, tribal, local, public, or other interest in designating or not designating the river

Two segments of the Kern River downstream of the BLM's segment have been determined to be eligible for inclusion in the NWSRS by the USFS; however, no suitability determination has been made.

5. Estimated cost of acquiring necessary lands or interests in lands and of administering the area if designated

The Keyesville SRMA has seen a large increase in visitors in recent years, and the BLM has had difficulty providing adequate staff for patrol and enforcement. It is possible that designation would attract more visitors, and the BLM may not be able to maintain adequate facilities at the Keyesville recreation area due to lack of funds.

6. Ability of the agency to manage and protect the river area or segment as a WSR or other means to protect the identified values other than WSR designation

Most of the segment is within the Keyesville SRMA, where principal activities are dispersed camping, off-highway vehicle use, recreational prospecting, and kayaking, rafting, and water play. Recently, both motorized and nonmotorized vehicle use has increased in the Keyesville area as a result of increased visits from both local and destination visitors. Increased off-highway vehicle use in the area could lead to habitat loss for special status species and could negatively impact the wildlife ORV.

Water flows, and consequently the recreational ORV, depend on releases from Lake Isabella. The BLM cannot control the release rates, and if the flows were significantly diminished or increased, the recreational ORV could be negatively impacted.

Historic ORVs are not ecosystem dependent. Cultural resources and historic values associated with the river segment are protected and regulated by a number of laws, regulations, executive orders, programmatic agreements, and other requirements. The principal federal law addressing cultural resources is the National Historic Preservation Act of 1966, as amended (16 US Code, Section 470), and its implementing regulations (36 Code of Federal Regulations, Part 800). These regulations, commonly referred to as the Section

106 process, describe the procedures for identifying and evaluating historic properties, for assessing the effects of federal actions on historic properties, and for project proponents consulting with appropriate agencies to avoid, reduce, or minimize adverse effects.

7. Historical or existing rights that could be adversely affected with designation

   Designation would not preclude valid existing rights from continuing. Grazing would still be permitted to the extent that it occurs at the time of designation, should the segment be designated. An instream flow water right to protect the ORVs would be junior to existing water rights in the area.

8. Adequacy of local zoning and other land use controls in protecting the river's ORVs by preventing incompatible development

   This stretch of river is in Kern County. Private land next to the river near Lake Isabella has many different zones, ranging from A (Exclusive Agriculture) to C-2 PD (General Commercial/Precise Development) to R (Residential) (Kern County 2008). If residential and commercial developments continue to grow to the extent that it would jeopardize habitat for special status species, the BLM would not be able to fully protect the wildlife ORV.

9. Consistency of designation with other agency plans, programs, or policies

   The North Fork of the Kern River, which flows into Isabella Lake on National Forest land, was designated a WSR on November 24, 1987 (Public Law 100-174). However, the designated portion of the river and the BLM study corridor are separated by Lake Isabella, a reservoir created by the dam.

   The lower section of the Lower Kern River is within the Monache-Walker Pass National Cooperative Land and Wildlife Management Area. BLM land in the Monache-Walker Pass National Cooperative Land and Wildlife Management Area is managed to improve and maintain a diverse assemblage of vegetative communities to benefit wildlife resources and recreational opportunities. Each vegetative community is managed to perpetuate that particular vegetative community and the various wildlife and plant species associated with it. Lands within the Monache-Walker Pass National Cooperative Land and Wildlife Management Area are withdrawn from application under the nonmineral public land laws and from disposition under the homestead, desert land entry, and script selection laws (BLM 1997a).

10. Other issues and concerns, if any

    None.

Preliminary Determination

Because the primary management focus in this area is for intensive recreation, management goals may not be consistent with designation where management focus should be on the protection of the ORVs. Ensuring the protection of the wildlife

ORV, which extends beyond the jurisdiction of the BLM, may be difficult on a shorter segment interspersed with non-BLM land in a developed area. BLM management needs to be flexible in order to deal with the change in species status or presence, should it occur. Other administrative protections are more appropriate for protecting the identified values. The preliminary determination for this segment is **not suitable.**

3.2.6 South Fork of the Kern River

Description	From the boundary with the Canebrake Ecological Reserve (Section 35, T25S, R36E) to the BLM/private land boundary (Section 25, T25S, R36E, Section 3, T26S, R36E) (**Figure 3-6**).		
Total River Length	85.0 miles	**Total River Area**	22,834.4 acres
Length on BLM Land	0.7 mile	**Area on BLM Land**	200.5 acres
Preliminary Classification	Recreational		
ORVs	Ecological, Wildlife, Visual		

Suitability Criteria

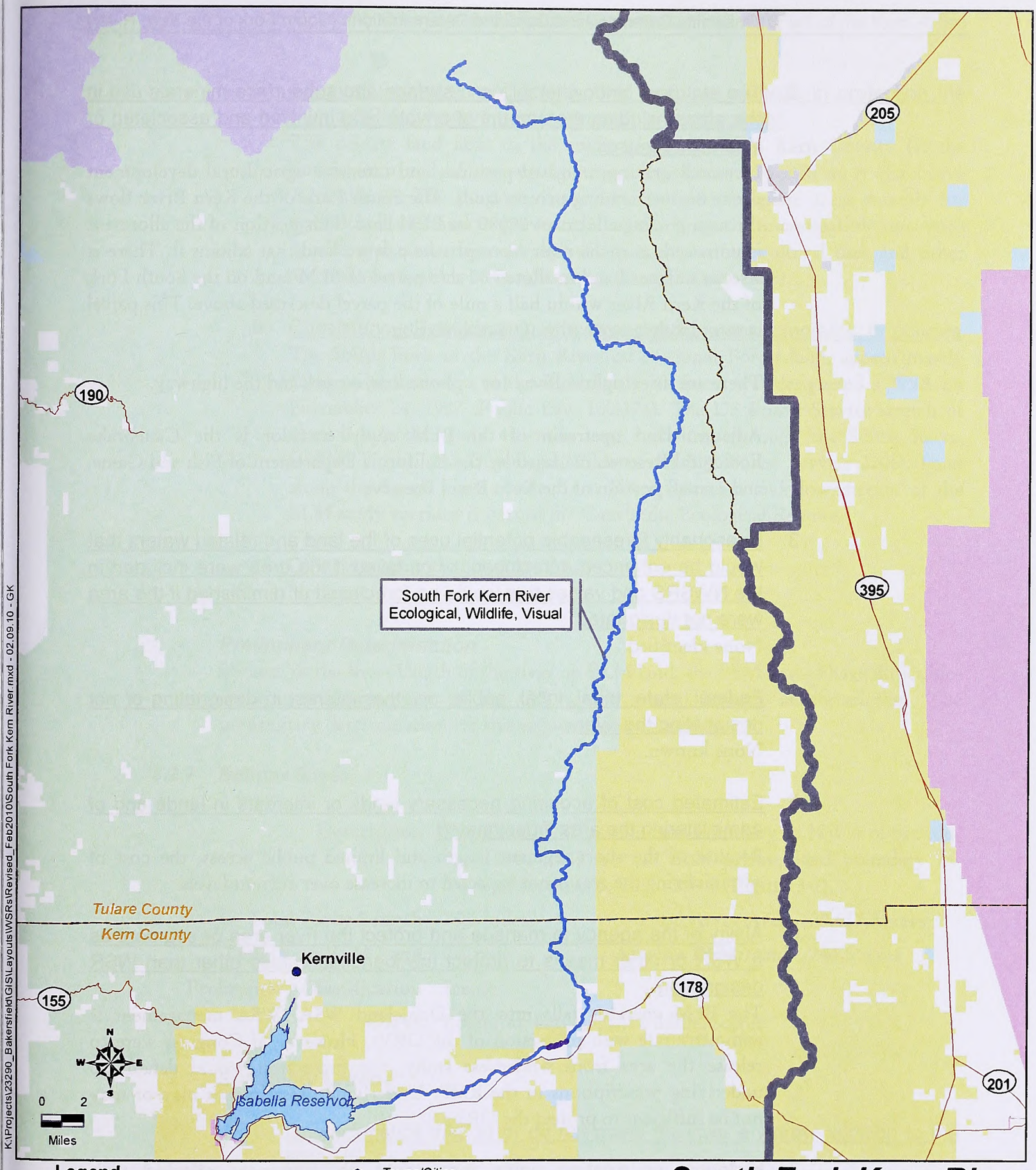
1. Characteristics that do or do not make the river a worthy addition to the NWSRS

   The South Fork of the Kern River flows out of Sequoia National Forest into Isabella Lake and reaches BLM land in a small area of broad valley and floodplain along Highway 178 near Onyx in Kern County. The BLM corridor falls into the Domeland WSA, which the BLM recommended as unsuitable for wilderness. BLM land adjoins the Sequoia National Forest and is within the South Fork Cooperative Management acquisition area. It also falls within the Monache-Walker Pass National Cooperative Land and Wildlife Management Area.

   A regionally significant diversity of game and nongame species is documented to occur along this drainage system. Important research is underway on the population biology and habitat requirements of yellow-billed cuckoo, summer tanager, and willow flycatcher.

   The upper reaches of the drainage contain appropriate habitat for California spotted owls. Surveys are being conducted to determine the number of birds in the region. The South Fork of the Kern River is a regionally significant migratory corridor and nesting area for neotropical migrating birds.

   The area is managed as VRM Class IV and has a scenic quality rating of A. See **Section 3.2.1**, Criteria 1, for more information on VRM Class and scenic quality rating.



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Legend

- Kern County Boundary
- Bakersfield Field Office Boundary
- Carrizo Plain National Monument
- Wild and Scenic Rivers
- Wild and Scenic Rivers on BLM Lands
- Towns/Cities
- Bureau of Land Management
- Forest Service
- National Park Service
- Bureau of Reclamation
- US Fish and Wildlife Service
- Military
- State Lands
- County / City / Regional
- Unclassified

South Fork Kern River
Bureau of Land Management
Bakersfield Field Office

Bakersfield, California

Figure 3-6

2. The status of landownership and surface and subsurface minerals use in the area, including the amount of private land involved and associated or incompatible uses

   Livestock grazing, irrigated pastures, and intensive agricultural development occur on surrounding private lands. The South Fork of the Kern River flows through grazing allotment 00080 on BLM land. This portion of the allotment is unfenced, as is the river from private pasture land that adjoins it. There is also an unfenced and unalloted 80-acre parcel of BLM land on the South Fork of the Kern River within half a mile of the parcel described above. This parcel is most likely grazed without authorization.

   There are three rights-of-way for a phone line, a road, and the highway.

   Adjacent land upstream of the BLM study corridor is the Canebrake Ecological Reserve, managed by the California Department of Fish and Game, and a small portion of the Kern River Preserve.

3. Reasonably foreseeable potential uses of the land and related waters that would be enhanced, foreclosed, or curtailed if the area were included in the NWSRS and values that would be foreclosed or diminished if the area were not designated

   None identified.

4. Federal, state, tribal, local, public, or other interest in designating or not designating the river

   None known.

5. Estimated cost of acquiring necessary lands or interests in lands and of administering the area if designated

   Because of the short segment length and limited public access, the cost of administering the area is not expected to increase over current levels.

6. Ability of the agency to manage and protect the river area or segment as a WSR or other means to protect the identified values other than WSR designation

   The BLM corridor falls into the Domeland WSA. WSA management is commensurate with protection of the ORVs. However, if Congress were to release the area from wilderness study, the protection would default to underlying prescriptions in the RMP. Underlying prescriptions may or may not be sufficient to protect the ORVs.

7. Historical or existing rights that could be adversely affected with designation

   Designation would not preclude valid rights from continuing. Grazing would still be permitted to the extent that it occurs at the time of designation.

8. Adequacy of local zoning and other land use controls in protecting the river's ORVs by preventing incompatible development
   The private land next to the study corridor within Kern County (at the downstream end of the segment near Canebrake) is zoned as A (Exclusive Agriculture). The purpose of this zoning is to designate areas suitable for agricultural uses and to prevent the encroachment of incompatible uses onto agricultural lands. Uses are limited primarily to agricultural uses and other activities compatible with agriculture (Kern County 2008).

9. Consistency of designation with other agency plans, programs, or policies
   The South Fork of the Kern River on National Forest land, approximately three miles upstream of the BLM study corridor, was designated a WSR on November 24, 1987 (Public Law 100-174). The US Forest Service stretch of river is approximately 41 miles long and flows through the South Sierra, Golden Trout, and Domeland Wildernesses (US Forest Service 2006). Land along the South Fork of the Kern River upstream and downstream of the BLM study corridor is part of the Canebrake Ecological Reserve.

10. Other issues and concerns, if any
    None.

Preliminary Determination

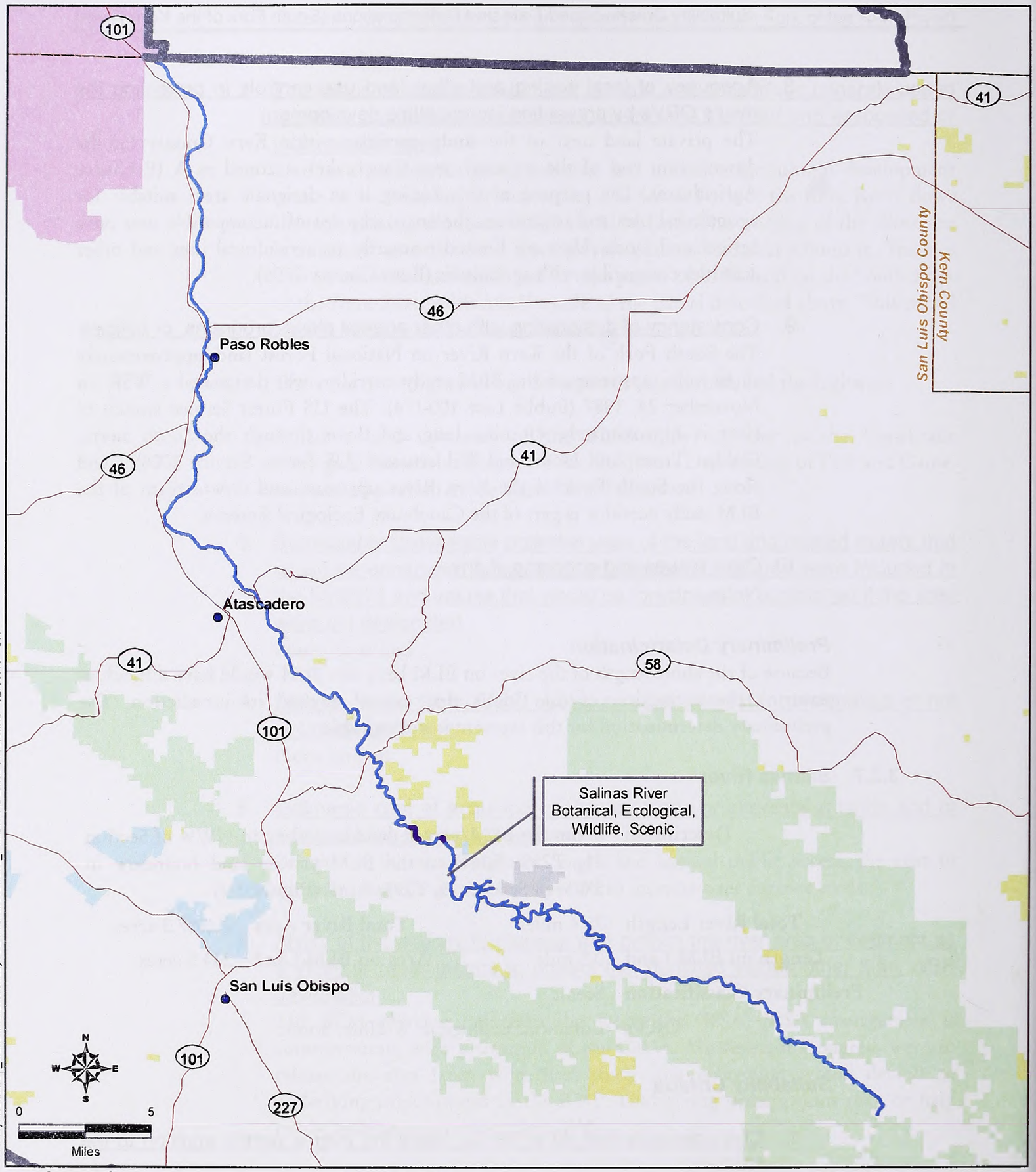
Because of the short length of the river on BLM land, the BLM would have difficulties ensuring the protection of the ORVs that extend beyond its jurisdiction. The preliminary determination for this segment is **not suitable**.

3.2.7 Salinas River

Description	From the BLM/private land boundary in NW¼ of Section 31, T29S, R14E to the BLM/private land boundary in SW¼ of Section 25, T29S, R14E (**Figure 3-7**).		
Total River Length	75.6 miles	**Total River Area**	20,657.3 acres
Length on BLM Land	0.8 mile	**Area on BLM Land**	244.5 acres
Preliminary Classification	Scenic		
ORVs	Botanical, Ecological, Wildlife, Scenic		

Suitability Criteria

1. Characteristics that do or do not make the river a worthy addition to the NWSRS
   The Salinas River flows from los Padres National Forest to Monterey Bay in the Pacific Ocean. The BLM's study corridor lies approximately 4.5 miles upstream of Santa Margarita Lake, or about eight miles northeast of the town



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Legend

- County Boundary
- Bakersfield Field Office Boundary
- Carrizo Plain National Monument
- Wild and Scenic Rivers
- Wild and Scenic Rivers on BLM Lands
- Towns/Cities
- Bureau of Land Management
- Forest Service
- National Park Service
- Bureau of Reclamation
- US Fish and Wildlife Service
- Military
- State Lands
- County / City / Regional
- Unclassified

Salinas River
Bureau of Land Management
Bakersfield Field Office

Bakersfield, California

Figure 3-7

of Santa Margarita in San Luis Obispo County. The reservoir is the domestic water source for the City of San Luis Obispo.

The BLM corridor is landlocked by private property, and the river is in a steep canyon. There is moderate access up the river from the BLM corridor if permission is obtained to cross private land. Recreation is limited to hunting, hiking, and horseback riding. The study corridor is within the Salinas River ACEC.

The BLM corridor has high value as a riparian area, ranging from riparian forests of cottonwood, sycamore, and willow trees to dense thickets of streamside mulefat and coyote bush. Water, food, and protection is afforded to the local fauna. The riparian belt of the Salinas River is unique for the area because it is along an isolated major drainage. The flow of the Salinas River, including the BLM corridor, is controlled by Santa Margarita Lake. The flow within the study area is slowed by beaver dams.

The excellent condition of the habitat, along with its physical alignment with the Coast Ranges, makes it an extremely important migratory corridor for neotropical migratory birds, which are showing severe declines throughout the country.

Due to steep topography next to the river, the riparian vegetation comes in contact with several major plant communities found in the Coast Ranges. This diversity adds greatly to the number of animals using the river system.

Hardham's evening-primrose (*Camissonia hardhamiae*), a BLM sensitive species, occurs along the Salinas River but is not documented from the BLM corridor. Another BLM sensitive species that may occur along the river is the straight-awned spineflower (*Chorizanthe rectispina*).

The area is managed as VRM Class III and has a scenic quality rating of A. See **Section 3.2.1**, Criteria 1, for more information on VRM Class and scenic quality rating.

2. The status of landownership and surface and subsurface minerals use in the area, including the amount of private land involved and associated or incompatible uses

The BLM segment is approximately three miles north of Los Padres National Forest boundary and two miles northwest of Santa Margarita Lake. Surrounding private land contains dispersed rural ranchettes approximately 20 to 80 acres in size. The 440-acre BLM parcel was determined to be unsuitable for livestock grazing due to steep slopes and dense brush outside of riparian areas. There is a potential for unauthorized grazing to occur on this parcel from adjacent private land because it is unfenced. There are no mining claims within the study corridor.

3. Reasonably foreseeable potential uses of the land and related waters that would be enhanced, foreclosed, or curtailed if the area were included in the NWSRS and values that would be foreclosed or diminished if the area were not designated

No reasonably foreseeable potential uses of the land and related waters have been brought to the attention of the BLM. However, because the area is bounded by private land, uses on those lands could conflict with management of the BLM segment as a WSR, and the BLM does not have the authority to control those uses, which could negatively impact the ORVs.

4. Federal, state, tribal, local, public, or other interest in designating or not designating the river

The Friends of the River have expressed interest in WSR designation for this segment.

5. Estimated cost of acquiring necessary lands, interests in lands, and administering the area if designated

The segment has limited public access. As such, the cost of administering the land, should it be designated, would not likely increase over present levels.

6. Ability of the agency to manage and protect the river area or segment as a WSR or other means to protect the identified values other than WSR designation

The entire segment is within the Salinas River ACEC, which was designated to protect an exemplary riparian area. Protections afforded the ACEC could also protect the botanical ORV. However, ACECs are administrative designations and could be repealed with an RMP amendment or revision. Thus ACEC designation does not afford the same long-lasting protection as a designation by Congress.

7. Historical or existing rights that could be adversely affected with designation

None known.

8. Adequacy of local zoning and other land use controls in protecting the river's ORVs by preventing incompatible development

This segment is in San Luis Obispo County. Private land next to the study corridor is zoned Rural. Unless the zoning changed to permit dense residential development, it is unlikely that incompatible development would occur on private land next to the BLM study corridor.

9. Consistency of designation with other agency plans, programs, or policies

The study corridor is within the Salinas River ACEC, which was designated to protect the riparian area. Designation would be consistent with ACEC management.

10. Other issues and concerns, if any
None known.

Preliminary Determination

The study corridor for the Salinas River has limited public access, which could make it difficult to enforce management required for a WSR designated river. Other protections, such as an ACEC, are more beneficial in protecting the ORV because the condition of the riparian area could change over time. A designation by Congress does not give the BLM as much flexibility in managing the area as does an ACEC, where management can be dynamic. The preliminary determination for this segment is **not suitable.**

3.2.8 San Joaquin River

The BLM study corridor of the San Joaquin River is composed of two segments. However, Segment 2 of the San Joaquin River is withdrawn by BLM to Reclamation, in accordance with a 1968 agreement between Reclamation and the BLM. The agreement is set to expire in 2018, at which time surface management will revert to BLM unless another agreement is reached. In the meantime, the BLM manages the surface activities. As such, any suitability determination for that stretch of river will be made in conjunction with or in whole by Reclamation. The following discussion of suitability criteria applies only to Segment 1 of the San Joaquin River (**Figure 3-8**).

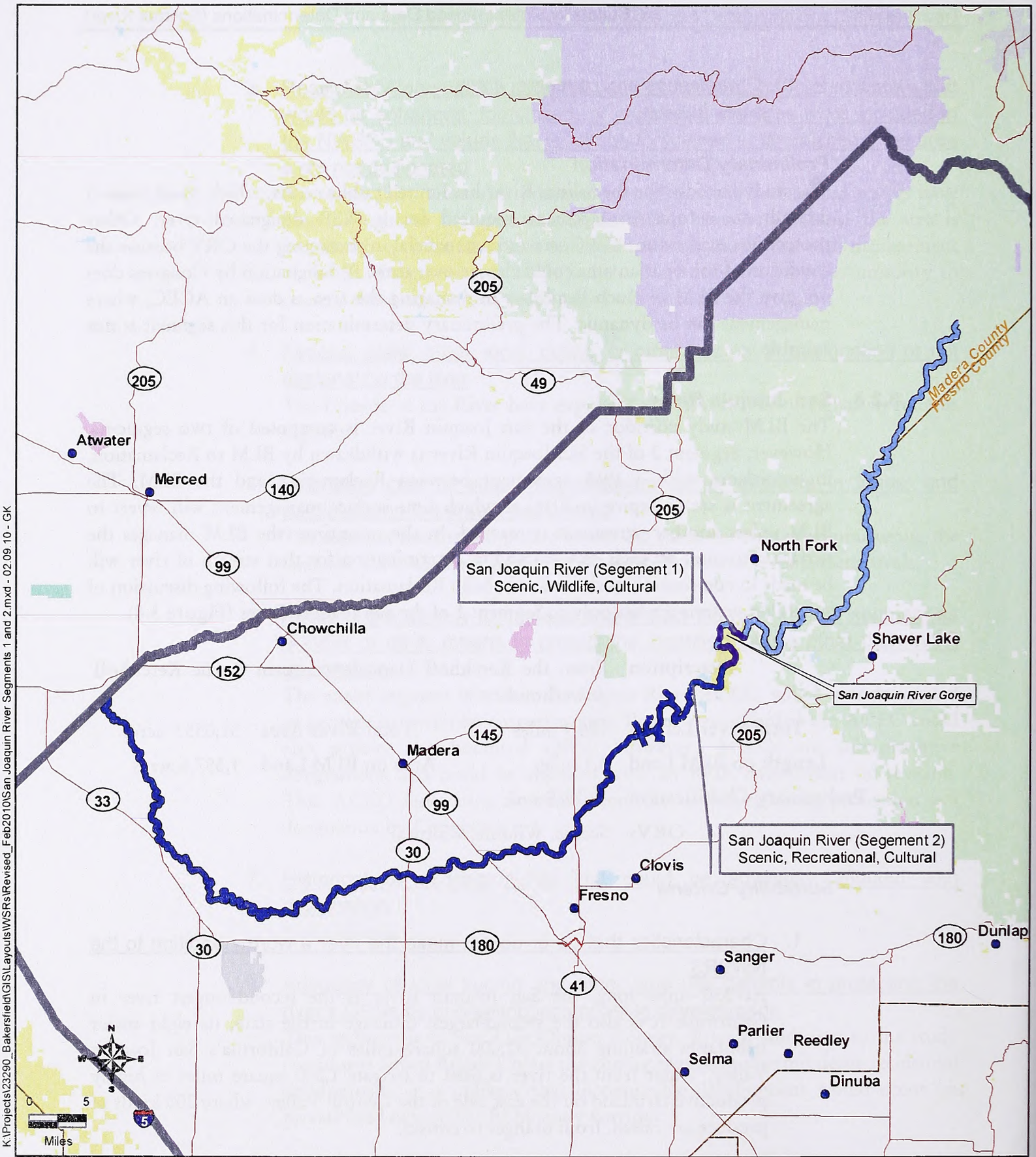
Description	From the Kerckhoff Dam downstream to the Kerckhoff powerhouse.		
Total River Length	186.9 miles	**Total River Area**	51,055.9 acres
Length on BLM Land	5.4 miles	**Area on BLM Land**	1,557.6 acres
Preliminary Classification	Wild/Scenic		
ORVs	Scenic, Wildlife, Cultural		

Suitability Criteria

1. Characteristics that do or do not make the river a worthy addition to the NWSRS

At 330 miles long, the San Joaquin River is the second-longest river in California. It is also the second-largest drainage in the state, its eight major tributaries draining about 32,000 square miles of California's San Joaquin Valley. Water from the river is used to irrigate 1,500 square miles of highly productive farmland on the east side of the Central Valley, where 200 kinds of produce are raised, from oranges to cotton.

The confluence of the three forks that make up the San Joaquin River passes through a narrow valley of which John Muir once said, "Certainly this Joaquin Canyon is the most remarkable in many ways of all I have entered." It



Legend

- County Boundary
- Bakersfield Field Office Boundary
- Carrizo Plain National Monument
- San Joaquin River Segment 1
- San Joaquin River Segment 2
- Wild and Scenic Rivers on BLM Lands
- Towns/Cities
- Bureau of Land Management
- Forest Service
- National Park Service
- Bureau of Reclamation
- US Fish and Wildlife Service
- Military
- State Lands
- County / City / Regional
- Unclassified

San Joaquin River - Segments 1 and 2
Bureau of Land Management
Bakersfield Field Office

Bakersfield, California

Figure 3-8

eventually emerges from the foothills at what was once the town of Millerton, the location of Friant Dam, which forms Millerton Lake.

The area is available for recreational uses, such as fishing, hiking, backpacking, bicycling, swimming, camping, nature studying, and horseback riding, although access to the upper reaches of the river is limited to primitive trails only.

One state-listed endangered species, the bald eagle (*Haliaeetus leucocephalus*), and one federally threatened species, the vernal pool fairy shrimp (*Branchinecta lynchii*), are known to occur within the area,. The federally endangered valley elderberry longhorn beetle (*Desmocerus californicus dimorphus*) is likely to occur in the area. The two other state-listed or federally listed species could occur in the area are the federally threatened California tiger salamander (*Ambystoma californiense*) and the state-listed and federally endangered Least Bell's vireo (*Vireo bellii pusillus*). Seven additional BLM and state-listed special-status species are known to occur within the area, with potential habitat for a several more.

One state-threatened plant species, tree anemone (*Carpenteria californica*), is known to occur within the area, with potential habitat for an additional ten special-status plant species, whose ranges are reported to include the San Joaquin River Gorge; this includes the state and federally listed endangered Hartweg's golden sunburst (*Pseudobahia bahiifolia*), the state-listed as endangered and federally listed as threatened San Joaquin Valley orcutt grass (*Orcuttia inaequalis*), the federally listed as threatened Mariposa pussypaws (*Calyptridium pulchellum*), and the state-listed as endangered and federally listed as threatened succulent owl's clover (*Castilleja campestris* ssp. *succulenta*).

The San Joaquin River Gorge is within the ethnographic region of several Foothill Yokuts groups and the North Fork Mono group of Indians. The Yokuts tribelets known to have used this area are the Kechayi Yokuts and the Dumna Yokuts. Each of these groups lived off the resources of this diverse area by hunting, gathering, and fishing. Archaeological sites left behind by the Yokuts and the Mono in this region include pictograph rock art, bedrock mortar and millingstone food processing stations, lithic scatters, and village sites. A review of archaeological files and maps, augmented with field visits, revealed that overall there are eighteen known archaeological sites in the area and several of these sites are eligible for listing on the NRHP.

The area has a scenic quality rating of A. The BLM's VRM system provides a way to identify and evaluate scenic values to determine the appropriate levels of management. VRM management classes may differ from VRM inventory classes, based on management priorities for land uses. The scenic quality rating is part of the VRM inventory process and is one of the factors in determining the appropriate VRM class for the area.

2. The status of landownership and surface and subsurface minerals use in the area, including the amount of private land involved and associated or incompatible uses

The area is known for placer gold, and gold prospecting is a frequently seen activity. The parcel surrounding the river segments are part of several livestock grazing allotments.

Immediately downstream of the segment is the Kerckhoff Powerhouse, which generates hydroelectric power and controls flows through the segment. Water is released from the Kerckhoff Dam immediately upstream of the segment.

3. Reasonably foreseeable potential uses of the land and related waters that would be enhanced, foreclosed, or curtailed if the area were included in the NWSRS, and values that would be foreclosed or diminished if the area were not designated

If designated, future projects related to or in addition to the current hydroelectric facilities may not be permitted if they are on or directly affect the river.

In 2002, Reclamation, in conjunction with the State of California Department of Water Resources, initiated the Upper San Joaquin River Basin Storage Investigation. This is to determine the type and extent of federal, state, and regional interests in a potential project to expand water storage capacity in the upper San Joaquin River watershed. In 2005, the agencies released the Initial Alternatives Information Report, in which they looked at six potential storage sites in the Upper San Joaquin River Basin. One option would raise the level of the reservoir, while another option would create a reservoir on Fine Gold Creek with water pumped from the San Joaquin River. Three other options would create reservoirs at one of three dam sites upstream of Millerton Lake at river miles 274 and 279. Both sites would create a reservoir that, at peak storage capacity, would inundate the San Joaquin River Segment 2 (Reclamation and California Department of Water Resources 2008), potentially impacting the cultural, visual, and wildlife ORVs, depending upon the level of inundation..

If a new dam were to be constructed within or downstream of the BLM study corridor before designation, the area could be inundated as part of the project, potentially impacting identified ORVs. Likewise, the ORVs could be impacted if a dam were erected on Fine Gold Creek and water were diverted from the San Joaquin River. Depending on the level and area of inundation, such ORVs as cultural and visual could be underwater. Opportunities for recreation could also be diminished. If a dam were erected on Fine Gold Creek and water were diverted from the San Joaquin River before WSR designation, the loss of water could also diminish opportunities for recreation that relied on specific instream flows.

4. Federal, state, tribal, local, public, or other interest in designating or not designating the river

Although neither Reclamation nor the California Department of Water Resources have expressed a position on designating the river, designation before a project approval could prevent the project from being implemented.

5. Estimated cost of acquiring necessary lands or interests in lands and of administering the area if designated

A WSR designation could bring increased levels of visitors. If that occurred, the cost of administering the area could increase from the present level to provide adequate facilities for visitors. The need for BLM presence for such activities as monitoring and law enforcement could also increase from the present level. On the other hand, the BLM could offset the costs by collecting fees for camping, specialized programs, and services.

The BLM would be interested in acquiring adjacent land in the area with or without designation. Designation may facilitate acquisition of lands by making it easer to get funding and gain public support.

6. Ability of the agency to manage and protect the river area or segment as a WSR, or other means to protect the identified values other than WSR designation

The physical structures related to the cultural resources in the grazing allotments would not be affected by WSR designation as they are protected and regulated by a number of laws, regulations, executive orders, programmatic agreements, and other requirements. The principal federal law addressing cultural resources is the National Historic Preservation Act of 1966, as amended (16 US Code, Section 470), and its implementing regulations (36 Code of Federal Regulations, Part 800). These regulations, commonly referred to as the Section 106 process, describe the procedures for identifying and evaluating historic properties, for assessing the effects of federal actions on historic properties, and for project proponents consulting with appropriate agencies to avoid, reduce, or minimize adverse effects. It should be noted, however, that traditional food and fiber resources are present and still relied upon. These resources are not directly protected by the aforementioned laws.

VRM can be used as a tool to minimize visual impacts of surface-disturbing activities and to maintain scenic values.

The area is managed as an SRMA. Behind the Keyesville SRMA, the San Joaquin River Gorge SRMA is the second most-visited area in the BKFO.

7. Historical or existing rights that could be adversely affected with designation

If designated, grazing would continue to be permitted, as long as it did not degrade the ORVs.

If designated, the hydroelectric facilities along the segment would continue to operate according to existing terms and conditions. All existing water rights, including water required for hydroelectric power generation, would be senior to a water right for protecting the ORVs, though current use levels are commensurate with protecting the identified values. Future projects related to or in addition to the current facilities may not be permitted if they are on or directly affect the river.

While Reclamation would still maintain current appropriated water rights if Segment 1 were designated, dam construction may not be permitted if the area is designated beforehand.

8. Adequacy of local zoning and other land use controls in protecting the river's ORVs by preventing incompatible development

   This stretch of the San Joaquin River forms the border of Madera and Fresno Counties. The Madera County side of the river has Agricultural, Rural Exclusive, 40 acres districts (ARE-40), Rural Mountain District districts (RM), and Public Open Space District districts (POS). The ARE-40 district and the RM district permit many types of agricultural uses, single family homes, and limited other uses with a permit. The Public Open Space district has many uses that would be compatible with WSR designation such as natural resource conservation, public recreation, and grazing; but other uses may not be compatible with WSR designation, such as public transportation, public utilities, and public airports (Madera County 2008).

   The Fresno County side of the river has Resource Conservation districts(RC-40), Recreation districts (RE), and Exclusive Agricultural districts (AE-40). The RC districts are used for natural resource conservation and use, such as grazing and timber harvest, or fish habitats. The AE-40 district is used exclusively for agriculture and agricultural-related activities. The RE district is used for recreational development such as campsites and hotels, trails for hiking and off-road vehicles, and boat storage (Fresno County 2004).

9. Consistency of designation with other agency plans, programs, or policies

   While a hydroelectric power station exists at the downstream end of the segment, current management is consistent with designation. However, designation could preclude future water projects in the area that are not currently permitted. Future water projects could be permitted only if Congress removed any WSR designation.

10. Other issues and concerns, if any

    None.

Preliminary Determination

A large portion of the BLM study corridor is on BLM land and does not involve private land. As such, the BLM is able to control activities that occur throughout the

segment. While current BLM management measures offer some protection for the ORVs, a designation by Congress would offer permanent protection. The values warrant lasting protection. The preliminary determination for this segment is **suitable**, with a recommended classification of **wild/scenic**.

3.3 SUMMARY OF SUITABILITY DETERMINATIONS

Table 3-1 is a summary of the preliminary suitability determinations. Of the nine individual segments evaluated, two were determined to be suitable for inclusion in the NWSRS. The suitable segments are North Fork of the Kaweah River and the San Joaquin River (Segment 1).

Table 3-1
Summary of Preliminary Suitability Determinations

River or Creek	Segment Length (miles) on BLM land	Preliminary Suitability Determination	Recommended Classification
Chimney Creek	15.5	Not suitable	
East Fork of the Kaweah River	2.3	Not suitable	
Middle Fork of the Kaweah River	0.12	Not suitable	
North Fork of the Kaweah River	2.5	Suitable	Recreational
Lower Kern River	3.2	Not suitable	
South Fork of the Kern River	0.7	Not suitable	
Salinas River	0.8	Not suitable	
San Joaquin River (Segment 1)	5.4	Suitable	Wild/Scenic

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SECTION 4
PROTECTIVE MANAGEMENT

The WSR Act requires that interim management be developed to protect the free-flowing nature, ORVs, and recommended classification of suitable segments. Interim management applies beginning at the time of final suitability determination until Congress designates the segments or releases them from suitability. Guidelines for management are in **Table 4-1**. Once final determinations have been made, the BLM will draft protective management measures for each suitable segment.

Table 4-1
Interim Protection for Suitable Wild and Scenic Rivers[1]

Issue/Action	Suitable
Study boundary	Minimum of 0.25 mile from ordinary high-water mark. Boundary may include adjacent areas needed to protect identified values.
Preliminary classification	3 classes: Wild, scenic, recreational defined by statute. Criteria for classification described in Interagency Guidelines. Manage at recommended classification.
Study Report Review Procedures	Notice of study report/draft EIS published in *Federal Register*. Comments/responses from federal, state, and local agencies and the public included in the study report/final EIS transmitted to the President and Congress.
Private land *Administration *Acquisition	Affect private land uses through voluntary partnership with state/local governments and landowners. No regulatory authority. Typically, an evaluation of the adequacy of local zoning and land use controls is a component of suitability determination.[2]

Table 4-1
Interim Protection for Suitable Wild and Scenic Rivers[1]

Issue/Action	Suitable
	No ability to acquire interest in land under the act's authority before designation.
Water resources project	River's free-flowing condition protected to the extent of other agency authorities; not protected under the WSR Act.
Land disposition	Agency discretion to retain lands within river corridor in federal ownership.
Mining and mineral leasing	Protect free flow, water quality, and ORVs through other agency authorities.
Actions of other agencies	Affect actions of other agencies through voluntary partnership.
Protect ORVs	No regulatory authority conferred by the WSR Act; agency protects through other authorities. Limited financial or other assistance to encourage participation in acquiring, protecting, and managing river resources.[3]

[1]Agency-identified study rivers as directed by Section 5(d)(1) of the act.

[2]For an agency-identified study river that includes private lands, there is often the need to evaluate state and local land use controls and, if necessary, to assess the willingness of state and local government to protect river values.

[3]Section 11(b)1 authorizes the Secretary of the Interior and Secretary of Agriculture, or the head of any other federal agency, to provide for "limited financial or other assistance to encourage participation in the acquisition, protection, and management of river resources." This authority "applies within or outside a federally administered area and applies to rivers which are components of the National System and to other rivers." The recipients of federal assistance include states or their political subdivisions, landowners, private organizations, or individuals. Some examples of assistance under this section include riparian restoration, riparian fencing to protect water quality and riparian vegetation, and vegetative screening to enhance scenery/recreation experience.

Source: Interagency Wild and Scenic Rivers Coordinating Council 1999

SECTION 5
LIST OF PREPARERS

An interdisciplinary team of resource specialists from the BLM BKFO prepared this suitability report (**Table 5-1**). Contractors Tetra Tech, Inc., and EMPSi assisted the BLM.

Table 5-1
Wild and Scenic River Suitability Report Preparers

Name	Role/Responsibility
BLM, Bakersfield Field Office	
Kim Cuevas	Cultural Resource Specialist
Peter De Witt	Outdoor Recreation Planner
Karen Doran	Grazing and Rangeland Health Specialist
Blake Goforth	Park Ranger
Denis Kearns	Botanist
Amy Kuritsubo	Wildlife Biologist
Stephen Larson	Assistant Field Manager, Resources
Tracy Rowland	San Joaquin River Gorge Project Manager
Larry Vredenburgh	Geographic Information Systems
Contractor, Tetra Tech, Inc.	
Kelly Bayer	RMP Project Manager, QA/QC
Yashekia Evans	Geographic Information Systems
Contractor, EMPSi	
Kate Wynant	Wild and Scenic Rivers

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SECTION 6
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APPENDIX A
ELIGIBILITY REPORTS

This appendix contains the eligibility reports for the Fresno and San Joaquin Rivers, studied as part of this RMP, as well the eligibility reports for the segments studied as part of the Caliente RMP.

A map of the Fresno River is included for reference. Maps of the San Joaquin River can be found in the body of this report.

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Wild & Scenic River Report
Fresno River

Name of Water Course: Fresno River

General Description: The Fresno River is a river in Central California and a major tributary of the San Joaquin River. It runs approximately 68 miles (109 km) from the Sierra Nevada Range to the San Joaquin River. The Fresno River is formed by the confluence of Nelder Creek and Lewis Fork near the town of Yosemite Forks. It then flows generally southwest through Oakhurst to Hensley Lake. Hensley Lake is a U.S. Army Corps of Engineer constructed reservoir formed by Hidden Dam; an earth-fill dam completed in 1974. The majority of the Fresno River flows across private property, exceptions to this include areas around the reservoirs it serves, and a small parcel of BLM-managed land between river mile 58 and 59. Access to the public portion of the River is from County Road 600 near Awahnee.

Legal Description: T7S, R20E M.D.M. Section 2

Total Miles/BLM Miles (Approximately): 68/0.6

Recreational Values: Public access is somewhat limited due to the topography of the area (steep slopes on either side of the river). Two trails exist from Road 600 down to the river. One of these trails has had improvements (steps) and a recent fencing project. A primitive parking area for river access is provided north of Road 600, along Crooks Ranch Road. The area is widely used by the local community for fishing, picnicking and water-play. American Whitewater (americanwhitewater.org) reports the section of river to be a popular kayaking spot in early to mid spring. It suggests a put-in location on the BLM-managed segment to start an 11 mile kayak with rapids classified as a class IV-V(V+).

Ecological Values: This river segment is a typical example of a low elevation major drainage originating from the southern Sierra Nevada Mountains. The river has carved though mica schist bedrock to form its present course. Pockets of streamside riparian vegetation exist leading in some areas to Valley Oak Woodland.

Wildlife Values: The River provides habitat for many species of wildlife, species noted on the site include; red-trailed Hawk and Golden Eagle, it's suspected that deer frequent the site and the potential for black bear exists. Suitable habitat exists for three special status animals along this segment of the river; the foothill yellow-legged frog, the western pond turtle and the valley elderberry longhorn beetle, although further survey is needed to document these species.

Botanical Values: Vegetation consists primarily of Blue Oak Woodland interspersed with occasional grey pines and live oaks. Ground cover consists mainly of non-native grasses. Valley Oak Woodland is found along a small section of the river at the confluence of Crooks Creek with the main watercourse, this is of special interest as they are endemic to California and uncommon in Madera County. Only a small percentage of the historical Valley Oak population remains, with very few examples found on BLM-managed lands in the Bakersfield Field Office. Ewan's Larkspur (*Delphinium hansenii ssp. Ewanianum*) is the only special status species can be found along the river segment, although there is potential for

Madera Linanthus (*Linanthus Serrulatus*), smallflower monkeyflower (*Mimulus inconspicuus*), and Farnsworth's jewelflower (*Streptanthus farnsworthianus*).

Cultural/Historic Values: Evidence of bed-rock mortars exists near the main water course; however the most notable historic value is the log flume that crossed the area paralleling the river. Within the main water course there is evidence of some historic structure that could be the footings of the log flume.

Physiography/Geology: Within the segment the bed rock is mica schist (locally known as "Slate") a metamorphosed sedimentary rock. Soil types found in the area include both Coarsegold rocky loam, and Coarsegold loam, with varying slopes from 40% to 70%. These soils share characteristics of rapid run-off, excessive drainage and severe erosion hazard.

Mineral Resources: The area is known for placer gold and an active mining claim exists on the BLM portion of the River. Gold-panning is a frequently seen activity. The Enterprise Mine is south of the BLM parcel, however a small monument has been erected to note the existence of the mine and of an historic Log Flume that crossed the region.

Land Use: The parcel surrounding the River segment is part of a livestock grazing allotment. Recent projects include fencing cattle out of the riparian zone at the confluence of Crooks Creek and the main watercourse; the project will also place a water trough for cattle and improve the parking area for recreationalists. The surrounding private property consists of residential units and ranches. Consideration of the region to be designated a "Green Belt" by the County is known, however at this time no specific information is available.

Scenic Quality: B

Water Quality: Fair

Eligibility Requirements:

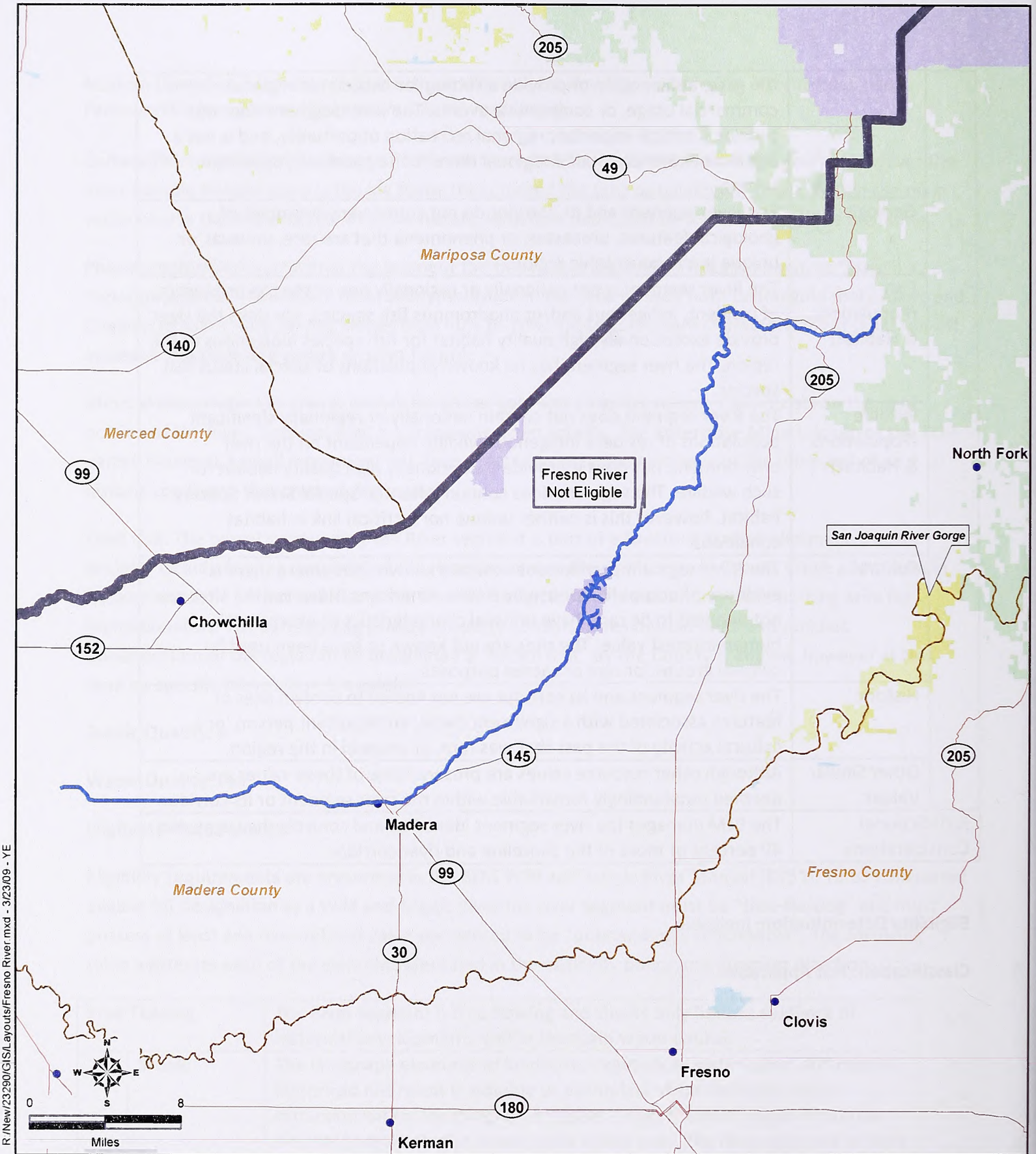
Eligibility requirements are presented in the BLM Wild and Scenic River Manual (8351). To be considered eligible for designation as a Wild and Scenic River the river segment must be "free-flowing" and must possess at least one river-related value considered to be "outstandingly remarkable". The following table addresses each of the elements identified in the eligibility policy and program direction.

Free Flowing		The River segment is free flowing and shows only limited evidence of historical developments within the main water course.
Values	Scenic	The landscape elements of landform, vegetation, water color, and related factors do not result in notable or exemplary visual features and/or attraction within the geographic region. Using the BLM Visual Resources Manual to evaluate the scenic value of the area, the River segment is rated as "Scenic Quality B", a rating of "A" is required to be considered outstandingly remarkable.
	Recreation	Recreational opportunities are not and do not have the potential to be unusual enough to attract visitors to the geographic region. The river segment alone does not have the potential to attract visitors from outside

		the geographic region or provide a setting for national or regional commercial usage, or competitive events. The River segment does not provide a critical important regional recreation opportunity, and is not a significant component of a regional recreation opportunity spectrum setting.
	Geologic	The River segment and its corridor do not contain any examples of geological features, processes, or phenomena that are rare, unusual, or unique in the geographic region.
	Fish (Populations & Habitat)	The River segment is not nationally or regionally one of the top producers of resident, indigenous and/or anadromous fish species, nor does the river provide exceptionally high quality habitat for fish species indigenous to the region. The river segment has no known populations of special status fish species.
	Wildlife (Populations & Habitat)	The River segment does not contain nationally or regionally significant populations of resident indigenous wildlife dependant on the river environment, nor does it provide exceptionally high quality habitat for such wildlife. The segment does contain potential Special Status Species habitat, however this is neither unique nor a critical link in habitat conditions.
	Cultural	The River segment corridor does contain known sites where there is evidence of occupation or use by Native Americans. However the sites are not deemed to be rare, have unusual characteristics or exceptional human-interest value. The sites are not known to have been used by cultural groups for rare or sacred purposes.
	Historic	The river segment and its corridor are not known to contain sites or features associated with a significant event, an important person, or a cultural activity of the past that was rare, or unusual in the region.
	Other Similar Values	Although other resource values are present none of these values are deemed outstandingly remarkable within the river segment or its corridor.
Jurisdictional Considerations		The BLM manages the river segment identified and controls the suggested 40 percent or more of the shoreline and river corridor.

Eligibility Determination: Ineligible.

Classification: Not Applicable.



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Legend

- County Boundary
- Bakersfield Field Office Boundary
- Carizzo National Monument
- Wild and Scenic River
- Towns/Cities
- Bureau of Land Management
- Forest Service
- National Park Service
- Bureau of Reclamation
- US Fish and Wildlife Service
- Military
- State Lands
- County / City / Regional
- Unclassified

Fresno River
Bureau of Land Management
Bakersfield Field Office

Bakersfield, California

Wild & Scenic River Report
San Joaquin River

Name of Water Course: San Joaquin River

General Description: The San Joaquin River is 330 miles (530 km) long. It is the second-longest river in California. The San Joaquin and its eight major tributaries drain about 32,000 square miles (83,000 km^2) of California's San Joaquin Valley. Water from the river is used to irrigate 1,500 square miles (3,900 km^2) of highly productive farmland on the east side of the Central Valley where 200 kinds of produce are raised from oranges to cotton. The River originates high on the western slopes of the Sierra Nevada and drains most of the area from the southern border of Yosemite, south to Kings Canyon National Park, making it the second largest river drainage in the state. The San Joaquin River's tributaries include the Stanislaus River, Tuolumne River, Merced River, Calaveras River and Mokelumne River.

The river originates at three locations. The South Fork begins at Martha Lake at an elevation of 11,004 feet (3354 m). The Middle Fork begins at Thousand Island Lake and joins the South Fork north of Balloon Dome in the Ansel Adams Wilderness. The North Fork begins at an unnamed lake at 11,190 feet (3410 m) elevation and joins the Middle Fork east of Junction Butte.

The confluence passes through a narrow valley of which John Muir once said: "Certainly this Joaquin Canyon is the most remarkable in many ways of all I have entered." It eventually emerges from the foothills at what was once the town of Millerton, the location of Friant Dam; completed in 1944, which forms Millerton Lake.

The San Joaquin River meets the Sacramento River near the city of Antioch. Together they form the Sacramento-San Joaquin Delta, one of the largest estuaries in the United States.

Legal Description:

Total Miles/BLM Miles (Approximately): 330/10.75

Recreational Values: The San Joaquin River has two distinct recreational opportunity settings on BLM-managed land. The entire area is available for recreational uses such as fishing, hiking, backpacking, bicycling, swimming, camping, nature studying and horseback riding; although access to the upper reaches of the river is limited to primitive trails only. The lower segment below the powerhouse is accessible by vehicle from a maintained road. In this area the BLM operates several facilities, including; a replica Native American village site, simulated archeological dig, authentic bedrock mortars, a nature trail focusing on plants and animals of cultural importance, a small museum, and several pond sites used for aquatic investigations. In addition to interpretive programs, visitors have access to over 22 miles of hiking and equestrian trails, including a National Recreation Trail. The area also has group and individual campsites.

Ecological Values: This river segment is an exemplary example of a low elevation (under 2000 ft) major drainage originating from the southern Sierra Nevada Mountains.

Wildlife Values: Species common to the area include; western rattlesnake, gopher snake, California kingsnake, western fence lizard, side-blotched lizard, mourning dove, great horned owl, horned lark,

common raven, lark sparrow, western meadowlark, grasshopper sparrow, red-tailed hawk, golden eagle, prairie falcon, American kestrel, northern harrier, greater roadrunner, loggerhead shrike, desert cottontail, black-tailed jackrabbit, California ground-squirrel, Bottae's pocket gopher, and coyote. During the winter, raptor numbers increase tremendously, depending on the numbers and availability of prey, primarily red-tailed hawk, northern harrier, short-eared owl, burrowing owl, ferruginous hawk and merlin. In addition, large numbers of mountain bluebird, savannah sparrow, lark sparrow, white-crowned sparrow, and house finch utilize this habitat in winter as well as smaller numbers of sage thrasher, vesper sparrow and Lincoln's sparrow.

Oak woodlands support a larger array of species than the grassland and desert scrub habitats. While many species overlap between these habitats, oak grasslands support tree inhabiting species not found in the grasslands. In addition to many species noted above, additional species include, wild turkey (introduced), European starling (introduced), western bluebird, white-breasted nuthatch, ash-throated flycatcher, oak titmouse, acorn woodpecker, western kingbird, western screech-owl, little brown bat, wild boar and mule deer. Winter influxes of raptors are not as pronounced as in grasslands and desert scrub, however, many white-crowned and golden-crowned sparrows utilize this habitat during winter.

Chaparral is a structurally homogeneous brushland type dominated by shrubs with thick, stiff, heavily cutinized evergreen leaves. As such these communities are nearly impervious to larger animals, except for a couple of years following a stand replacing fire. Wildlife use in chaparral is largely dependent on time since fire, with mule deer benefiting from the regrowth of shrubs and release of herbaceous plants. Typical chaparral birds include wretit, scrub jay, spotted and California towhees, and California thrasher. Winter influxes of raptors in chaparral are not pronounced, however, many white-crowned and golden-crowned sparrows utilize this habitat during winter. Some grassland is contained within chaparral habitats, and wildlife here would be similar as described above.

One federally listed special-status species is known to occur within the area; the Bald Eagle (*Haliaeetus leucocephalus*), with potential for three more including the California Tiger Salamander (*Ambystoma californiense*), Vernal Pool Fairy Shrimp (*Branchinecta lynchii*) and Least Bell's Vireo *(*Vireo bellii pusillus*)*. Seven additional BLM & State special-status species are known to occur within the area with potential habitat for a several more.

Botanical Values: The area mainly consists of foothill pine (*Pinus sabiniana*) and blue oak (*Quercus douglasii*) woodland with annual grassland understory. Interior live oak (*Quercus wislizeni*), and California buckeye (*Aesculus californica*) are also common in varying densities. Chamise chaparral (*Adenostoma fasciculatum*) is a minor vegetation component at the lower elevations.

One special-status species, tree anemone (*Carpenteria californica)*, is known to occur with within the area, with potential habitat for an additional ten special-status species, whose ranges are reported to include the San Joaquin River Gorge; this includes the federally listed Hartweg's golden sunburst (*Pseudobahia bahiifolia*), San Joaquin Valley orcutt grass (*Orcuttia inaequalis*) Mariposa pussypaws (*Calyptridium pulchellum*), and succulent owl's clover (*Castilleja campestris* ssp. *succulenta*).

Cultural/Historic Values: The San Joaquin River Gorge is located within the ethnographic region of several Foothill Yokuts groups and the Northfork Mono. Two Yokuts tribelets are known to have used this area, the Kechayi Yokuts and the Dumna Yokuts. Each of these groups lived off the resources of this diverse area by hunting, gathering, and fishing. Archeological sites left behind by the Yokuts and the Mono in this region includes pictograph rock art, bedrock mortar and millingstone food processing stations, lithic scatters, and village sites.

The cultural resources (including archeological and paleontological resources) in the grazing allotments would not be affected by the proposed action. A review of archeological files and maps, augmented with field visits revealed that overall there are eighteen known archeological sites within area. Several of these archeological sites are eligible for listing to the National Register of Historic Places. In particular, the areas of Lower Hidden Valley Ranch, Big Sandy, and Smalley Road contain cultural resources that embody characteristics for eligibility for prehistoric archeological values and possibly Native American traditional use values.

Mineral Resources: The area is known for placer gold and gold prospecting is a frequently seen activity.

Land Use: The parcel surrounding the River segments are part of several livestock grazing allotment.

Scenic Quality: A

Water Quality: Good

Eligibility Requirements:

Eligibility requirements are presented in the BLM Wild and Scenic River Manual (8351). To be considered eligible for designation as a Wild and Scenic River the river segment must be "free-flowing" and must possess at least one river-related value considered to be "outstandingly remarkable". The following table addresses each of the elements identified in the eligibility policy and program direction.

Due to the various outstandingly remarkable values and potential classification categories applicable for the San Joaquin River it has been divided into two segments to determine eligibility. Segment 1 consists of the upper reaches of the river from the Kerckhoff Dam to the Kerckhoff powerhouse. This segment consist of approximately 7.25 miles the majority of which flows across BLM managed lands. Segment 2 flows from the powerhouse to the start of the Millerton reservoir; approximately 3.5 miles all of which is located on BLM managed lands.

San Joaquin River – Segment 1

Free Flowing	The River segment is free flowing and shows no sign of anthropogenic change.

Values	Scenic	The landscape elements of landform, vegetation, water color, and related factors result in notable and exemplary visual features and/or attraction within the geographic region. Using the BLM Visual Resources Manual to evaluate the scenic value of the area, the River segment is rated as "Scenic Quality A"; this rating is required to be considered outstandingly remarkable.
	Recreation	Recreational opportunities are not and do not have the potential to be unusual enough to attract visitors to the geographic region. The river segment alone does not have the potential to attract visitors from outside the geographic region or provide a setting for national or regional commercial usage, or competitive events. The River segment does not provide a critical important regional recreation opportunity, and is not a significant component of a regional recreation opportunity spectrum setting.
	Geologic	The River segment and its corridor do not contain any examples of geological features, processes, or phenomena that are rare, unusual, or unique in the geographic region.
	Fish (Populations & Habitat)	The River segment is not nationally or regionally one of the top producers of resident, indigenous and/or anadromous fish species, nor does the river provide exceptionally high quality habitat for fish species indigenous to the region. The river segment has no known populations of special status fish species.
	Wildlife (Populations & Habitat)	The River segment does not contain nationally or regionally significant populations of resident indigenous wildlife dependant on the river environment, nor does it provide exceptionally high quality habitat for such wildlife. The segment does contain several known Special Status species and potential habitat for more, however this is neither unique or a critical link in habitat conditions.
	Cultural	The River segment corridor does contain known sites where there is evidence of occupation or use by Native Americans. The sites are deemed to be rare, have unusual characteristics or exceptional human-interest value, and potentially eligible for the National Register of Historic Places. The sites are not known to have been used by cultural groups for rare or sacred purposes.
	Historic	The river segment and its corridor are not known to contain sites or features associated with a significant event, an important person, or a cultural activity of the past that was rare, or unusual in the region.
	Other Similar Values	Although other resource values are present none of these values are deemed outstandingly remarkable within the river segment or its corridor.
Jurisdictional Considerations		The BLM manages the river segment identified and controls over 40 percent of the shoreline and surrounding area.

San Joaquin River – Segment 2

Free Flowing	The River segment is free flowing and shows only limited evidence of developments within the river corridor.

Values	Scenic	The landscape elements of landform, vegetation, water color, and related factors result in notable and exemplary visual features and/or attraction within the geographic region. Using the BLM Visual Resources Manual to evaluate the scenic value of the area, the River segment is rated as "Scenic Quality A"; this rating is required to be considered outstandingly remarkable.
	Recreation	Recreational opportunities are and do have the potential to be unusual enough to attract visitors to the geographic region. The river segment alone does have the potential to attract visitors from outside the geographic region or provide a setting for national or regional commercial usage, or competitive events. The River segment does provide a critical important regional recreation opportunity, and is a significant component of a regional recreation opportunity spectrum setting.
	Geologic	The River segment and its corridor do not contain any examples of geological features, processes, or phenomena that are rare, unusual, or unique in the geographic region.
	Fish (Populations & Habitat)	The River segment is not nationally or regionally one of the top producers of resident, indigenous and/or anadromous fish species, nor does the river provide exceptionally high quality habitat for fish species indigenous to the region. The river segment has no known populations of special status fish species.
	Wildlife (Populations & Habitat)	The River segment does not contain nationally or regionally significant populations of resident indigenous wildlife dependant on the river environment, nor does it provide exceptionally high quality habitat for such wildlife. The segment does contain several known Special Status species and potential habitat for more, however this is neither unique or a critical link in habitat conditions.
	Cultural	The River segment corridor does contain known sites where there is evidence of occupation or use by Native Americans. The sites are deemed to be rare, have unusual characteristics or exceptional human-interest value, and potentially eligible for the National Register of Historic Places. The sites are not known to have been used by cultural groups for rare or sacred purposes.
	Historic	The river segment and its corridor are not known to contain sites or features associated with a significant event, an important person, or a cultural activity of the past that was rare, or unusual in the region.
	Other Similar Values	Although other resource values are present none of these values are deemed outstandingly remarkable within the river segment or its corridor.
Jurisdictional Considerations		The BLM manages the river segment identified and controls over 40 percent of the shoreline and surrounding area.

Eligibility Determination:

San Joaquin River - Segment 1: Eligible

San Joaquin River – Segment 2: Eligible

Potential Classification:

San Joaquin River - Segment 1: Wild/Scenic

San Joaquin River – Segment 2: Recreational/Scenic

Appendix H-3 Wild and Scenic River Eligibility and Preliminary Classification Report

Introduction

The BLM is mandated to evaluate potential additions to the National Wild and Scenic Rivers System (NWSRS) during the Resource Management Plan (RMP) process by Section 5(d) of the Wild and Scenic Rivers Act (WSRA). NWSRS study guidelines are found in BLM Manual 8351, U.S. Departments of Agriculture and Interior guidelines published in Federal Register Vol. 7, No. 173, September 7, 1982, and in various BLM memoranda and policy statements.

The NWSRS study process has three distinct steps:

1. Determine what rivers or river segments are eligible for NWSRS designation.

2. Determine the potential classification of eligible river segments as wild, scenic, recreational, or any combination thereof.

3. Conduct a suitability study/legislative EIS to determine if the river segments are suitable for designation to the NWSRS.

Any river found to be eligible for inclusion in the NWSRS, will result in the associated BLM administered lands, within 1/4 mile of the river, being managed as if the river were an actual component of the NWSRS, until the suitability issue is resolved. If a river is found to be suitable for inclusion into the NWSRS, Congress must then pass legislation designating the river before it is added into the system. The State of California can also include the river as a State designated Wild and Scenic River and then apply to the Secretary of Interior for its inclusion into the NWSRS.

The following discussion provides information on how BLM considered streams and rivers for potential inclusion in the NWSRS. The first section portrays what efforts BLM used to identify study river corridors. The second section discusses eligibility criteria. The third section is a brief statement on how BLM addressed classification. Suitability determinations for inclusion in the NWSRS will only be completed when BLM develops activity plans for the management of high priority areas which encompass eligible corridors. Most of the BLM eligible study corridors contain small amounts of public lands. Suitability determinations for these corridors are deferred until BLM is able to consult the parties affected by these determinations (such as state agencies, local governments and private landowners).

The majority of this appendix contains a description of the values within each study river corridor followed by a conclusion on eligibility and recommendation for preliminary classification.

Identification

Prior to conducting any assessment for inclusion into the NWSRS, BLM established a list of study river corridors. BLM considered existing lists of such river corridors (i.e. suggestions from Friends of the River, the Nationwide Rivers Inventory, and Outstanding Rivers List), public input, and BLM staff nominations. Streams lacking public lands administered by BLM, streams with limited public ownership, and streams where information is insufficient to identify the lack of outstandingly remarkable values/free-flowing characteristics were not considered, or were dropped from analysis.

Eligibility

The WSRA states that to be eligible for inclusion in the NWSRS, a river or river segment must be free flowing and within its immediate environment, and must possess one or more outstandingly remarkable scenic, recreational, geologic, fish and wildlife, historic, cultural or other similar values.

Free flowing, as defined in Section 16(b) of the WSRA, means "existing or flowing in natural condition without impoundment, diversion, straightening, rip-rapping, or other modification of the waterway. The existence, however, of low dams, diversion works, and other minor structures at the time any river is proposed for inclusion in the national wild and scenic river system shall not automatically bar its consideration for such inclusion." A river may flow between large impoundments and may qualify if conditions within the segment meet the eligibility criteria. There are many river segments already in the NWSRS which are downstream from or between major dams which severely regulate and diminish the flow of water in the effected segments. Some examples are: the Trinity River, Klamath River, and Tuolumne River in California, the Snake River in Idaho, and the Deschutes River in Oregon. Some of these rivers have had certain types of recreation enhanced by the water flow regulation of these dams. Examples of designated rivers with substantial diversions within the NWSRS segment, at the time of designation, include the North Fork Kern River and the upper Merced River, both in the California Sierra. There are no minimum flow requirements for inclusion into the NWSRS.

There are no minimum river segment lengths in the NWSRS. Congress has designated a segment as short as 4.25 miles. Considerations in defining study segments include substantial changes in land ownership, physical changes in the river and its surrounding land characteristics, and the type and amount of modern human modification.

The term "outstandingly remarkable" is not clearly defined in the WSRA; consequently the determination of what constitutes "outstandingly remarkable" is left to the professional judgement of the managing agencies and their staffs. Outstandingly remarkable means something which is more than ordinary when considered within a regional (Resource Area wide) context. In order for the river to be considered eligible in this study, the outstandingly remarkable value(s) must occur on BLM administered public lands within ¼ mile of the river.

Some examples of outstandingly remarkable values are as follows: scenic quality rating of "A" (BLM Manual 8400 Visual Resource Management-Scenic Quality); threatened or endangered species critical habitat; physiographical, biological, recreational, geological or ecological type locations (exemplar); and areas which are very natural or primitive in character, showing little, if any, evidence of modern human modification, and which may be very rugged and physically challenging to travel through.

In the following discussion of specific river study corridors, outstandingly remarkable characteristics are marked with an asterisk. Only characteristics on BLM administered lands are considered. Segments or corridors deemed ineligible in this study because of lack of outstandingly remarkable values on BLM administered lands, may have outstandingly remarkable values on non-BLM lands. In this instance, BLM defers to other appropriate organizations and agencies to (re)evaluate these segments and corridors. BLM will participate in any joint studies with the responsible agency(s), as appropriate.

Classification

To ensure that outstandingly remarkable values located on public lands are not adversely impacted by BLM authorizations, each eligible study corridor has been assigned preliminary classifications. These preliminary classifications are based on the classification definitions found in Section 2 (b) of the Wild and Scenic Rivers Act, Public Law 90-542 of October 2, 1968.

WILD RIVER AREA: Those rivers or sections of rivers that are free of impoundments and generally inaccessible except by trail, with watersheds or shorelines essentially primitive and waters unpolluted. These represent vestiges of primitive America.

SCENIC RIVER AREA: Those rivers or sections of rivers that are free of impoundments, with shorelines or watersheds still largely primitive and shorelines largely undeveloped, but accessible in places by roads.

RECREATIONAL RIVER AREA: Those rivers or sections of rivers that are readily accessible by road or railroad, that may have some development along their shorelines, and that may have undergone some impoundment or diversion in the past.

Water Quality Rating

The water quality rating was based on a comparison of physical, chemical, biological and bacteriological constituents with water quality standards and criteria.

GOOD = water quality suitable for all uses
FAIR = water quality suitable for all uses except domestic and recreational use
POOR = water quality unsuitable for domestic, recreational, wildlife and livestock use

SUMMARY OF WILD AND SCENIC RIVER ELIGIBILITY STUDY

River Corridor	Management Area	Eligibility Status	Outstanding Resource Values	Wild, Scenic or Recreational
Salinas	Coast	Eligible	Ecological Wildlife Visual	Scenic
Soda Lake	Valley	Eligible	Recreational Ecological Wildlife Flora Cultural Visual	Scenic
Bodfish	South Sierra	Non-eligible		
Caliente	South Sierra	Non-eligible		
Canebrake	South Sierra	Eligible	Ecological Wildlife Flora	Recreational
Chimney	South Sierra	Eligible	Wildlife Flora Visual	Wild and Recreational
Clear	South Sierra	Non-eligible		
Erskine	South Sierra	Non-eligible		
Kaweah East Fork	South Sierra	Eligible	Ecological Visual	Scenic
Middle Fork	South Sierra	Eligible	Floral Visual	Recreational
North Fork	South Sierra	Eligible	Wildlife Cultural Visual	Scenic and Recreational
South Fork	South Sierra	Non-eligible		
Long Valley	South Sierra	Non-eligible		

River Corridor	Management Area	Eligibility Status	Outstanding Resource Values	Wild, Scenic or Recreational
Lower Kern	South Sierra	Eligible	Recreational Wildlife Historic	Recreational
Pine	South Sierra	Non-eligible		
South Fork, Kern	South Sierra	Eligible	Ecological Wildlife Floral Prehistoric Historic Visual	Recreational
Salt	South Sierra	Non-eligible		
Spanish Needles	South Sierra	Eligible	Wildlife Floral Visual	Scenic and Recreational

NAME OF WATER COURSE: **Bodfish Creek**

GENERAL DESCRIPTION: Bodfish Creek, situated in Kern County, southwest of the resort town of Lake Isabella, is part of the Kern River watershed. Its upper reaches are in Sequoia National Forest and its lower reaches are privately-owned. The creek flows within the Piute-Cypress Wilderness Study Area, recommended unsuitable for wilderness by the BLM. It also occurs within the Monache-Walker Pass National Cooperative Land and Wildlife Management Area. Access along a dirt road is available but a locked gate blocks the public. Remains of unauthorized mining activity are being removed within the river corridor and the WSA.

LEGAL DESCRIPTION: T27S, R33E, M.D.M. Sec. 21, W 1/2, Sec. 20 NE 1/4.

TOTAL MILES/BLM MILES (approximately): 5 / 1.26

RECREATIONAL VALUES: The Creek receives low use due to lack of public access and its rocky, steep terrain. It is situated in the Piute-Cypress WSA, recommended non-suitable for wilderness.

ECOLOGICAL VALUES: Riparian vegetation grows intermittently along the entire segment. This stream generally flows year-round along the BLM segment. The largest of the Piute Cypress groves is located in the creek's watershed area.

WILDLIFE: Bodfish Creek flows from blue oak/digger pine through chaparral and pinyon pine-juniper and desert scrub. The sycamores, willows and coyote brush provide shelter and the basis for the food for many game and nongame species. They have a high potential for supporting willow flycatchers. Many neotropical migrating birds nest and migrate along the drainage.

SENSITIVE PLANT SPECIES: There are no documented locations of sensitive plant species within the river corridor.

CULTURAL/HISTORIC: Adjacent to BLM's segment of Bodfish Creek are remnant features of historic gold mining. These ruins are not formally recorded nor evaluated. Although mining was an important historic event in this region, there are no known sites of particular significance along the creek corridor. Bodfish Creek was named after George H. Bodfish who came into the Keyesville area in the late 1850's to mine for gold. He eventually settled in the canyon that is now named after him. Prehistorically, there are no recorded sites of significant value along the Creek's corridor. The region was primarily occupied by the Kawaiisu Indian culture.

PHYSIOGRAPHY/GEOLOGY: The northern portion of public lands is underlain by pre-Cretaceous metasedimentary rock; the southern half is underlain by Mesozoic Granitic Rocks.

MINERAL RESOURCES AND THEIR HISTORY: The early mining history of the mines on BLM administered land in Bodfish Canyon is unknown, but may date to the 1860s or 1870s, the same period that the mines in Keyesville and Erskine Creek were active. The Mondora (or Polka Dot) mine, located in the Bodfish Creek drainage in the NE¼ Sec. 21 was active in the 1890s. The foundation of a mill which stands in the NW¼ Sec. 21 presumably served this mine, and dates from this period. In the 1970s and early 1980s this mine was worked by Joe Freear, who constructed a mill about 500 feet south of the old mill site. There are other prospects in the NW¼ Sec. 21 and just a few tens of feet south of the USFS boundary in Sec. 28 along Bodfish Creek.

LAND USE: Public lands are adjacent to Sequoia National Forest and between the towns of Lake Isabella and Bodfish. Surrounding private lands include residential and rural residential parcels

ranging from one-half to two and one-half acres in size. There are several mining claims (as stated above) situated on the public lands along the river corridor. The 1.5 miles of Bodfish Creek on BLM land is currently unalloted and determined to be unsuitable for livestock grazing. The mouth of the drainage is fenced from private lands and there has never been a livestock drift problem. There are five rights-of-way on public land near this creek (CA 14324 for power line to Southern California Edison Co., CA 15778 for road to C. Mehalko, CA 14022 for road to D. Anderson, S 078122 for drainage easement and Highway 178, and S047108 for gaging station to Corps of Engineers).

SCENIC QUALITY: VRM Class III; Scenic Quality B

WATER QUALITY: Fair

ELIGIBILITY CONCLUSION: NON-ELIGIBLE

CLASSIFICATION: Scenic

NAME OF WATER COURSE: **Caliente Creek**

GENERAL DESCRIPTION: Caliente Creek flows from the foothills of the Piute Mountains, west to the Mountain View oilfields, in Kern County. Development along the BLM corridor consists of the Caliente Creek county road running adjacent to the creek, road crossings, check dams, houses and fences in site of the river, culverts, roadside pullouts, evidence of heavy livestock use, and trash.

LEGAL DESCRIPTION: T30S, R32E, M.D.M. Sec.24, NW 1/2; T30S, R33E, Sec. 21, N 1/2.

TOTAL MILES/BLM MILES (approximately): 32/1.4

RECREATIONAL VALUES: There are no known recreational uses on this creek except local use by private landowners.

ECOLOGICAL VALUES: BLM's segment is a low-elevation stream running over granitic rocks and gravel. The upper reaches of the creek on BLM land appear as a dry wash most of the year. There is a small man-made dam on the upper reach but otherwise the stream is free-flowing. Digger pine and blue oak are the dominant trees of the adjacent area. Occasional California sycamore, willow and cottonwood trees are found growing along the stream's riparian habitat. The corridor is subject to extreme flooding during periods of excessive rainfall.

WILDLIFE: Caliente Creek provides an important corridor between the valley grasslands and the mountains. The habitat is diverse, depending on the slope and geology. The streamside is vegetated by sycamore, cottonwood and willow. Occasionally, steep, rocky north-facing slopes provide habitat for the State listed and Federal candidate Tehachapi slender salamander. Two other Federal candidates for listing may occur along this portion of the stream, the California red-legged frog and the foothill yellow-legged frog. Both species generally require high quality perennial streams; few streams of this quality remain in California.

SENSITIVE PLANT SPECIES: There are no documented locations of any sensitive plant species within this river corridor.

CULTURAL/HISTORIC: At the confluence of Caliente Creek and Indian Creek is the small settlement

of Loraine. Paris, which was founded circa 1903, was renamed Loraine in 1912. Mining was the principal attraction to the area. Historically, the most noted mines in the area were the Barbarosa, Amalie, Gold Peak, Juan Dos, Zenda and the Barrosa. The region was prehistorically inhabited by the Kawaiisu culture. Although there are no recorded sites of significance known along the creek corridor on public land, the adjacent area is considered culturally sensitive for both historic and prehistoric resources.

PHYSIOGRAPHY/GEOLOGY AND MINING HISTORY: The Creek flows through a rocky, V-shaped canyon and narrow valley with steep walls. Technically, in this area Mesozoic granitic rocks and roof pendants of pre-Cretaceous metasedimentary rocks have been intruded by Tertiary rhyolite dikes and plugs. Gold and silver mines in the Loraine area yielded over $500,000 worth of ore. In addition there has been production of tungsten, antimony, lead, zinc and copper. Recent exploration by major mining companies has confirmed the existence of an economic gold ore body at the previously productive Zenda mine. New exploration has targeted the Tertiary rhyolite plugs southwest and southeast of Loraine. At this time no other ore bodies have been discovered.

Loraine itself has grown up on patented mining claims. However two historically productive mines, the Barbarosa and Amalie were never patented.

LAND USE: Surrounding private lands include rural residences, especially around the community of Loraine. Residences and abandoned cabins are visible from the river corridor. There are two BLM livestock grazing allotments on the scattered pieces of public land, and livestock grazing also occurs on the surrounding private lands. There are several mining claims on BLM lands around the Creek and abandoned mine tunnels. A mill site and mine can be seen although there are no signs of recent mining activity. Four rights-of-way (LA 087459 for power line to Southern California Edison Co., CA 10633 for road to D.J. Ryman, R 1860 for phone line to Pacific Bell, and CA 15784 for PCNST (BLM reservation). Powerlines, telephone lines, paved and gravel roads cross the creek and also parallel it. Debris from the floods of the early 1980s is evident all along the creek.

SCENIC QUALITY: VRM Class IV; Scenic Quality C

WATER QUALITY: Fair

ELIGIBILITY CONCLUSION: NON-ELIGIBLE

CLASSIFICATION: Recreational

NAME OF WATER COURSE: **Canebrake Creek**

GENERAL DESCRIPTION: Originating in the Scodie Mountains of Sequoia National Forest in Kern County, Canebrake Creek flows westward from Walker Pass (on Highway 178) to join the South Fork of the Kern River near the small town of Onyx. The entire BLM study corridor flows adjacent to Highway 178. Canebrake Creek's lower stretches enter a patchwork of BLM and private lands. The Creek flows in the Owens Peak WSA and the Monache-Walker Pass National Cooperative Land and Wildlife Management Area.

LEGAL DESCRIPTION: T26S, R37E, M.D.M., Sec. 17, SW 1/4; Sec. 18, SE 1/4 NE 1/4; Sec. 7, SE 1/4; T26S, R36E, M.D.M., Sec. 1, NE 1/4; T25S, R36E, M.D.M., Sec. 36, Sec. 25, SW 1/4,

SW1/4NW1/4; Sec. 21, NE 1/4.

TOTAL MILES/BLM MILES (approximately): 16 / 5.3

RECREATIONAL VALUES: The southwest boundary of the Owens Peak WSA reaches the Canebrake Creek study corridor. However, due to the closeness of Highway 178, this river corridor offers few opportunities for solitude. Limited recreation use is in the form of dispersed hunting and fishing, and birdwatching.

*ECOLOGICAL VALUES: This unique low volume perennial stream exhibits excellent riparian stream-side vegetation consisting of low-growing willow trees and intermittently-occurring cottonwood trees of varying sizes. Much of the river is sluggish in nature and runs over granitic alluvium. It affords excellent riparian wildlife habitat in areas occupied solely by Joshua trees.

*WILDLIFE: The Canebrake Creek is part of one of the most biologically diverse regions in the country. It flows through pinyon pine woodlands, Great Basin shrublands and Mojave Desert associations. The willow, cottonwood and ash are regionally important resting areas for neotropical migratory birds. **Willow Flycatchers**, State listed and Federal candidate, nest along this drainage. This area is an important zone of contact for many sibling species of plants and animals. Important research on hybridization and physiological adaptations are being initiated in this area.

*FLORA: The following species are known to occur on BLM land within the river corridor:
Needles buckwheat (Eriogonum breedlovei var. shevockii), a Federal category 3C candidate
Walker Pass milkvetch (Astragalus erterrae), a Federal category 2 candidate
Charlotte's phacelia (Phacelia nashiana), a California Native Plant Society List 1B species

CULTURAL/HISTORIC: Historically, this area is recognized for several important historical events. Joseph R. Walker, who led one of John C. Fremont's expeditions over Walker Pass in 1834 is formally honored as the first American to have entered Kern Valley. Walker's eastward expedition through Kern Valley to Walker Pass probably paralleled segments of Canebrake Creek. (Walker Pass, which is outside the Canebrake Creek corridor, is recognized as a National Historic Landmark). A remnant segment of the old stage run established circa 1870 trends from Canebrake Creek to Canebrake Flat. The historic road once continued to Onyx where it terminated. The portion of the historic road near Canebrake Creek is situated on private land. There are no known significant historic sites within the Canebrake Creek corridor. The area was ethnographically situated at the interface between the Tubatulabal and the Kawaiisu cultural groups. There are several known prehistoric sites along the Canebrake Creek corridor; however, no significant cultural properties have been determined. The Canebrake Creek cultural region is considered culturally sensitive.

PHYSIOGRAPHY/GEOLOGY/MINERALS: The Creek flows through both Mesozoic granitic rock and some metasedimentary rock. There is an active sand and gravel pit and an old Caltrans maintained borrow pit that was used for more than 20 years.

LAND USE: Public lands adjoin the Sequoia National Forest. This is a slowly expanding rural residential area with surrounding private lands containing rural residences between two and one-half to 40 acres in size. Several houses and cabins are visible from the river corridor. Four miles of Canebrake Creek flows through a grazing allotment which has cattle grazing from January 1 to June 30. The other mile of the creek flows through scattered tracts of public land in another allotment offering the same grazing period when annual forage is available. Livestock grazing also occurs on the surrounding private lands. Evidence of cattle grazing (such as a watering trough and fences) is visible along the river corridor. There are two permits for apiary sites and mining claims on adjacent

public lands. Eleven rights-of-way have been granted (CA 9471 for road to C. Allen, LA 0163327 for phone line to Contel, LA 0147800 for power line to Southern California Edison Co., CA 4663 for road to Kern County, CA 8256 for buried phone line to Contel, R 06784 for pipelines to E. Day, CA 22499 for visitor center/fire station (BLM reservation), CA 2953-55 for seismograph station to U.S.G.S., CA 8763 for PCNST & campground (BLM reservation), CA17660 for pipeline & collection box to L. Zabel, and CA 6973 for PCNST to Sequoia National Forest).

SCENIC QUALITY: VRM Class III; Scenic Quality B

WATER QUALITY: Fair

ELIGIBILITY CONCLUSION: ELIGIBLE (ecological, wildlife and flora - federal candidate T&E fauna and flora); NON-ELIGIBLE corridor due to potential for sand and gravel extraction: T25S, R36E, M.D.M., Sec. 21 SW 1/4 NE 1/4

CLASSIFICATION: Recreation

NAME OF WATER COURSE: **Chimney Creek**

GENERAL DESCRIPTION: Chimney Creek, located in both Tulare and Kern Counties, and in the Owens Peak and Rockhouse Basin Wilderness Study Areas, forms part of the South Fork of the Kern watershed. Most of the creek is located on BLM land which borders the Sequoia National Forest; several short corridors flow on private land. Parts of the study corridor are easily accessed by the Canebrake Road (a BLM maintained gravel road off Hwy. 178) and minor jeep roads. These dirt roads parallel and cross the creek in its upper reaches only. The lower section, at parts, is so steep and rocky that foot travel is difficult. The principal development, along the upper river corridor, is BLM's Chimney Creek Campground. A large house complex is readily seen in Lamont Meadows.

LEGAL DESCRIPTION: (main tributary) T24S, R37E, M.D.M., Sec. 5, N 1/2 SE 1/4; Sec. 17 (unsurveyed); Sec. 18, S 1/2; T24S, R36E, M.D.M., Sec. 24, E 1/2; Sec. 25, W 1/2, Sec. 33; Sec 34; Sec. 35; Sec. 36, NW 1/4 NW 1/4; T25S, R36E, M.D.M., Sec. 3; Sec. 10, NW 1/4; Sec. 9.

TOTAL MILES/BLM MILES (approximately): 19/16.9

RECREATIONAL VALUES: BLM's Chimney Creek campground is located on the upper reaches of Chimney Creek. The Creek forms part of the recreational and scenic attraction in the Owens and Rockhouse Basin WSAs for dispersed camping, hiking and hunting. Its rugged, rocky, steep banks contribute to the scenic beauty of these areas.

ECOLOGICAL VALUES: Chimney Creek is a typical low volume stream, originating from the southern end of the Kern Plateau at elevations below 9000 feet. Portions of this creek can become dry during the summer. Riparian vegetation generally consists of an intermittent thick ribbon of low-growing willow trees. Single leaf pinyon pine can be found throughout the watershed. The creek runs along a pristine and extremely rocky granitic bed when not crossing Chimney and Lamont meadows.

*WILDLIFE: This drainage is primarily vegetated by willow thickets and wet meadows, and passes through a great diversity of habitats. The headwaters are in high elevation with Jeffrey pine, and as the river drops in elevation, dominant species change from pinyon pine, California juniper, and finally

Joshua tree. The higher elevation stretches contain wet meadows which have meandering, narrow stream channels and overhanging grasses, and have served as examples for tours with other agencies and the public of what a stream in good condition should look like. The **willow flycatcher**, State threatened and Federal candidate, is dependent upon willow thickets in excellent condition as found along this creek. Few drainages have as large a population of flycatchers as this one. This habitat at higher elevations is extremely important for mule deer fawning, migrating and wintering. The long corridor of habitat is an excellent and important migration route for neotropical migrating birds heading to or from the Sierras or beyond. Some of these species nest along this river system as well.

SENSITIVE PLANT SPECIES: There is a high potential that Alkali mariposa lily, Calochortus striatus, occurs along BLM's river corridor. This plant, a Federal C2 candidate species, is known to occur nearby.

CULTURAL/HISTORIC: This area was ethnographically claimed by the Tubatulabal cultural group and is recognized for its high cultural resource sensitivity. There are a number of recorded prehistoric sites along the creek corridor. Although there are no known National Register cultural properties along the corridor, it is highly probable that significant prehistoric sites are present. There are no significant historic resources presently identified along the creek.

PHYSIOGRAPHY/GEOLOGY/MINERALS: The creek flows through mesozoic granitic rocks. There is potential for sand and gravel extraction in T.25 S., R.26E. M.D.M. Sec. 17. In the final analysis this sand and gravel area may be excluded from eligibility status.

LAND USE: Chimney Creek flows through four different grazing allotments which, in combination, are active throughout most of the year. They use both spring and surface waters. There are several mining claims on public lands surrounding the Creek and a land use permit for an apiary site. The slowly expanding rural residential area with surrounding private lands contains rural residences between two and one-half to forty acres in size. Ten rights-of-way exist on surrounding public lands (CA 20759 for road to Edgar Family Trust, R 4846 for BLM road and campground, CA 8763 for PCNST (BLM reservation), CA 27428 for BLM reservation, CA 3943 for BLM fire station, CA 17467 for communication site to U.S. Forest Service, CA 16180 for communication site to Cal Trans, CA 20927 for communication site to U.S. Air Force, R 1940 for communication site to BLM, CA 2953-53 for communication site to U.S. Geological Survey).

*SCENIC QUALITY: VRM Class II and III; Scenic Quality = A

WATER QUALITY: Poor

ELIGIBILITY CONCLUSION: ELIGIBLE (due to combination of federal candidate T&E fauna and possibly flora, and scenic values)

CLASSIFICATION: WILD (north of T24S, R36E, M.D.M. N1/2, Sec. 35); RECREATIONAL (from T24S, R36E, M.D.M. N1/2, Sec. 35 south to T25S, R36S, N1/2, Sec.9, which is approximately 1/4 mile above private property.)

NAME OF WATER COURSE: **Clear Creek**

GENERAL DESCRIPTION: Clear Creek drains Havilah Canyon in Kern County, from Sequoia National Forest's Piute and Breckenridge Mountains to the Lower Kern River. The majority of the main creek's corridor flows on Sequoia National Forest Service lands which are within one mile of public lands. The Creek is also within the Monache-Walker Pass National Cooperative Land and Wildlife Management Area. Surrounded by private land, the small BLM corridor along Clear Creek shows some visible historic mining operations, a paralleling footpath and the end of a jeep road.

LEGAL DESCRIPTION: Main tributary: T27S, R32E, M.D.M. Sec. 26, SW 1/4; Sec. 35, N 1/2 NW 1/4. Sections of tributaries: T27S, R32E, M.D.M. Sec. 25,26,33. T28S, R32E, M.D.M. Sec. 3,4,9, 10, 12.

TOTAL MILES/BLM MILES (approximately): 18 /.5 (main tributary)

RECREATIONAL VALUES: insignificant

ECOLOGICAL VALUES: Much of the segment qualifies as a ephemeral stream course, becoming active during wet periods. Typical watershed values of the general area are represented in this segment. The creek becomes perennial below Havilah Valley at a point where it enters a canyon which guides it to the Kern River. Only small pools of water are found in the creek bed during the summer months.

WILDLIFE: No data

SENSITIVE PLANT SPECIES: Piute Mountain navarretia, Navarretia setiloba, a Federal category 1 candidate for listing occurs along the river corridor and could occur within the BLM's corridor.

CULTURAL/HISTORIC: With the discovery of gold along Clear Creek in 1864, Havilah shortly became a bustling mining community. Havilah was Kern County's first county seat from 1866 to 1872 before it was moved to Bakersfield. Clear Creek Mining District was a flourishing mining district for more than 20 years. One of the most productive mines in the district was the Delphi which was also known as the McKeadney Mine. By the 1890's, Havilah was nearly a ghost town. Clear Creek is within the area which was ethnographically inhabited by the Kawaiisu Indian culture. The core areas occupied by the Kawaiisu were Walker Basin, Kelso Canyon, and Loraine area. There are no recorded cultural properties of significance on public land on either Clear Creek or its tributaries (Havilah is located on non-public land along a tributary of Clear Creek). However the area, pending intensive field inventory, is considered potentially a high sensitivity area for the occurrence of both historic and prehistoric resources.

PHYSIOGRAPHY/GEOLOGY: The Creek occurs at the contact of Mesozoic granitic rocks and pre-Cretaceous metasedimentary rocks.

MINERAL RESOURCES: The only surface administered by BLM on Clear Creek is the former "Marsh and Kennedy Millsite". This mill was owned by D. L. Reese and J. B. Haggin and served the mine they and George Hearst owned in the Havilah area. Two years from when the gold mines were discovered in 1864, there were ten mills processing gold ore. The principal period of activity lasted until 1880. Since then there has been intermittent mining. Also, several tungsten deposits have been located, some less than 1/4 mile from the BLM parcel on Clear Creek.

LAND USE: Livestock grazing occurs on adjacent private lands. Clear Creek itself is flowing across approximately .5 mile of unalloted public land. This land appears to be suitable and is grazed by livestock drifting over from private land. Two miles of a tributary crosses an allotment with a year long season while one and one-half mile of another tributary flows across an allotment which has a season

of use from July 1 to February 28. These tributaries flow only during and shortly after storms. Clear Creek occurs in a slowly expanding rural residential area with parcels ranging from two and one-half to forty acres in size. There are five rights-of-way (S 3858 for road to U.S. Forest Service, Sequoia NF, S 2175 for power line to Southern California Edison Co., CA 18946 for road to U&T Bolt, R 2849 for road to U.S. Forest Service, and S 3267 for power line to Kern River Co.).

SCENIC QUALITY: VRM Class III; Scenic Quality B

WATER QUALITY: Unknown

ELIGIBILITY CONCLUSION: NON-ELIGIBLE (note: due to possibility of Federal candidate T&E plant species which may occur, this river needs further evaluation in conjunction with a suitability study, which should be lead by USFS)

CLASSIFICATION: Scenic

NAME OF WATER COURSE: **East Fork of the Kaweah River**

GENERAL DESCRIPTION: The East Fork of the Kaweah River extends approximately 18 miles from Mineral King in Sequoia National Park to Highway 198, just north of the small town of Hammond in Tulare County. The BLM study corridor falls into the Milk Ranch parcel of the Milk Ranch/Case Mountain WSA, recommended unsuitable by the BLM for wilderness. Development along this corridor consists of the Oak Grove/Mineral King access road south of the river. There is limited evidence of human impact along the entire segment.

LEGAL DESCRIPTION: T17S, R29E., M.D.M., Sec. 37 Lots 6, 7, 8, SE1/4; Sec. 38 NE1/4SE1/4; Sec. 10 S1/2; Sec. 39 NE 1/4.

TOTAL MILES/BLM MILES: 10/ 2.4

RECREATIONAL VALUES: The study corridor is located in rocky, steep and rugged terrain with dense mixed chaparral which is difficult to access. Public lands are adjacent to the Milk Ranch/Case Mountain WSA and also the Sequoia National Park boundary. Most recreationists bypass this lower river section for the hiking and horseback riding opportunities offered in the Mineral King Valley, Sequoia National Park, located along the upper reaches of the E. Fork of the Kaweah. This BLM corridor would most likely be used by fishermen.

*ECOLOGICAL VALUES: This segment is an outstanding example of a pristine low elevation major drainage originating from the Mineral King segment of the southern Sierra Nevada Mountains. The stream channel is carved out of solid granite which takes on the appearance of a carved out chain of deep pools for much of the segment. Occasional riparian streamside vegetation grows intermittently along the segment. A rainbow trout fishery exists in this stream.

WILDLIFE: The diverse riparian community along the entire Kaweah River drainage system provides habitat for mule deer, black bear, gray fox, California and mountain quail, wood duck, common mergansers, many nongame species including Cooper's hawk and osprey, California species of special concern, and the bald eagle (in winter). This drainage provides a migratory network leading into the Sierra Nevada Mountains which is a crucial link to the higher altitudes, including Kings

Canyon/Sequoia National Park. This riparian system is an important migratory stopping place and corridor for declining neotropical migrating birds.

SENSITIVE PLANT SPECIES: Mouse buckwheat, Eriogonum nudum var. murinum, a Federal C-2 candidate for listing, likely occurs within this segment of the river corridor.

CULTURAL / HISTORIC: This stretch of the East Fork is ethnographically situated within the territory of a Western Mono group known as the Patwisha. Only one prehistoric site on public land is known along this segment of the river. The area is considered sensitive for the potential occurrence of both prehistoric and historic resources.

PHYSIOGRAPHY/GEOLOGY: The river flows through Mesozoic granitic rock.

LAND USES: Water power generation and production is an important industry in this area. Associated with a Federal Power Commission Order is a conduit, penstock and road in the vicinity of the river corridor. Approximately two miles of the East Fork flows through a grazing allotment and serves as one of its main water sources. Private lands include rural residences. There are three rights-of-way (CA 19079 for a road to S. Quade, S 072970 for a telephone line to Pacific Bell, and CA 20186 for a road to E. Casey). Developments which can be seen from the river corridor include houses and cabins, a flume, jeep road and the paved parallel road.

*SCENIC QUALITY: VRM Class III; Scenic Quality A

WATER QUALITY: Good

ELIGIBILITY CONCLUSION: ELIGIBLE (should be studied in conjunction with NPS. NPS should be lead agency to initiate study; has outstanding scenic and ecological values)

CLASSIFICATION: Scenic

NAME OF WATER COURSE: **Erskine Creek**

GENERAL DESCRIPTION: Erskine Creek, situated in Kern County, southwest of the resort town of Lake Isabella, is part of the Kern River watershed. Its upper reaches are in Sequoia National Forest and its lower reaches are privately-owned. The middle section of the creek is a checkerboard of both private and BLM land. It lies within the Monache-Walker Pass National Cooperative Land and Wildlife Management Area and Piute-Cypress Wilderness Study Area, which is determined to be unsuitable for wilderness by the BLM. Easy access to the creek is available on the gravel Erskine Creek Road which fords the creek nine times on BLM lands. Ample evidence of man-made alterations is present in the form of check dams, mining settlements, dams, road crossings, culverts, livestock trampling, primitive campsites and picnic areas, and trash.

LEGAL DESCRIPTION: T27S, R33E, M.D.M., Sec. 9, S 1/2; Sec. 16, NE 1/4; Sec. I5 NW 1/4; Sec. 23, N 1/2, SW 1/4; Sec. 24 NW 1/4 SW 1/4.

TOTAL MILES/BLM MILES (approximately): 11/2 plus .91 miles of tributary

RECREATIONAL VALUES: The creek is used during the warmer months for camping, fishing,

swimming, picnicking, and sunning. The gravel road alongside the creek is popular with mountain bicyclists and OHV users. OHV use tracks also extend upslope from the riverbed.

ECOLOGICAL VALUES: Riparian vegetation grows intermittently along the entire creek.

WILDLIFE: Erskine Creek flows from blue oak/digger pine through chaparral and pinyon pine-juniper and desert scrub. The sycamores, willows and coyote brush provide shelter and the basis for the food for many game and nongame species. The vegetation has a high potential for supporting willow flycatchers. Many neotropical migrating birds nest and migrate along the drainage.

SENSITIVE PLANT SPECIES: Alkali mariposa lily, Calochortus striatus, and Piute Mountains jewelflower, Streptanthus cordatus var. piutensis, both Federal C2 candidates for listing, may occur along Erskine Creek.

CULTURAL/HISTORIC: Erskine Creek was named after Michael Erskine, an early gold miner in the region. The dispersed occurrence of early mining features along the creek attest to the importance of this mining area which was established as the Valley View Mining District in the 1860's (see Mineral Resources section below). The area was primarily occupied, ethnographically, by the Kawaiisu cultural group. There are no recorded cultural properties along the public land segments of Erskine Creek. However, the area is considered to have potential for such resources.

PHYSIOGRAPHY/GEOLOGY: Outcrops of limestone are located near the creek and contain natural caves. Harrington's Cave, located approximately one-third mile above and south of the Creek, is 120 feet deep which makes it the deepest known cave in the area. Above Sec. 16 lies metavolcanic rocks of French Gulch, and quartzite of Fairview (with marble); below Sec. 16 lie Mesozoic granitic rocks. Three faults have been mapped as paralleling and within the Erskine Creek drainage. Travertine deposits sit astride one fault.

MINERAL RESOURCES AND THEIR HISTORY: The Valley View Mining District, established in 1865, encompassed the Erskine Creek Area. Little is known about mining in the early years, but in the mid-1870s four mining claims were located, which were then patented in the 1880s. Three of the claims are adjacent to BLM lands, north of the USFS boundary. One mine was developed for antimony, the other three for lode gold. Gold was also mined at the Illinois and Golden Bell mine immediately after the turn of the century. During the 1950s uranium was discovered and prospected southwest of Laura Peak and southeast of the mouth of Erskine Creek. At this same time tungsten was produced at the Unip mine 1/4 mile northwest of the junction of Willow Gulch and Erskine Creek. Tungsten was prospected at the Christmas Tree mine, near the head of Spring Gulch. In the 1970s the Rampors Company explored an area in the SE¼ of Sec. 9 and the SW¼ of Sec. 10, presumably for gold. During the 1980s Virgil Schuette prospected Erskine Creek for placer gold and garnets. In addition to the above named mines and prospects there are numerous unnamed prospects on public lands within the Erskine Creek drainage.

LAND USE: Public lands are adjacent to the Sequoia National Forest and between the towns of Lake Isabella and Bodfish. Surrounding private lands include residential and rural residential parcels ranging from one-half to two and one-half acres in size. There is no legal grazing allowed on the adjoining public lands. One mile of Erskine Creek is on land determined to be unsuitable and the remainder is on unalloted parcels which are suitable but closed to grazing. Drift of livestock from surrounding private lands has occurred in the past and evidence of grazing use on public lands is visible. There are two rights-of-ways (CA 5043 for road to J. Nemish and S078122 for Highway 178) and one land use permit for an apiary site.

SCENIC QUALITY: VRM Class III; Scenic Quality B

WATER QUALITY: Fair

ELIGIBILITY CONCLUSION: NON-ELIGIBLE

CLASSIFICATION: Recreational

NAME OF WATER COURSE: **Long Valley Watershed**

GENERAL DESCRIPTION: The Long Valley watershed, located in Tulare County, on the southern end of the Kern Plateau, has several tributaries which join to flow into the South Fork of the Kern River. Part of the drainage falls within the Rockhouse WSA and the Monache-Walker Pass National Cooperative Land and Wildlife Management Area. Public lands adjoin the Sequoia National Forest and Domeland Wilderness Area. BLM's Long Valley Campground and access road which parallels the stream (and fords it once), windmill, gabion dams, and fence spring are the only significant developments along the unnamed tributaries of the watershed. Cattle impact is high and trampling is evident in all but the inaccessible, rocky and steep reaches.

LEGAL DESCRIPTION: T24S,R36E, M.D.M. (portions of the North Half); T23S,R36E, M.D.M., Secs 31,32,33,34.

TOTAL MILES/BLM MILES (approximately): 15/13.5 (all tributaries)

RECREATIONAL VALUES: The watershed is used for dispersed bird and deer hunting, fishing, hiking and camping, picnicking, viewing wildlife and birdwatching. BLM's semi-developed Long Valley Campground is located along the Long Valley Creek and is a popular trailhead for access to the South Fork of the Kern River.

ECOLOGICAL VALUES: Long Valley watershed is a typical low volume stream originating from the southern end of the Kern Plateau at elevations below 9000 feet. Riparian vegetation generally consists of an intermittent thick ribbon of low-growing willow trees.

WILDLIFE: This drainage system flows through extensive pinyon pine woodlands and sagebrush/bitterbrush uplands. The streamside vegetation is dominated by grass and sedge, willow, pinyon pine and Jeffrey pine. The drainage system is an important breeding area, migratory corridor and wintering area for the Monache mule deer herd. The willow habitats are important nesting areas for the **willow flycatchers** as well as for other nesting and migratory neotropical migrating birds. The drainage is generally in good condition and provides a good example of this habitat in the southern Sierras. Nesting populations of the federal candidate, **California spotted owl**, are found within this drainage system.

SENSITIVE PLANT SPECIES: There are no documented locations of any sensitive plant species within this river corridor.

CULTURAL/HISTORIC: This area was ethnographically used primarily by the Tubatulabal Native American Indians. There are at least eight formally recorded prehistoric sites dispersed along the tributaries. While no formal evaluation of site(s) significance has been determined at present, it is

highly probable that National Register quality sites do occur within one-quarter mile of the tributaries. In regard to cultural sensitivity, the area is considered to have a high potential for prehistoric site occurrence. There are no recorded historic sites along the main and secondary tributaries on BLM public lands. However, several mining prospects of undetermined age can be found in the area.

PHYSIOGRAPHY/GEOLOGY: Much of the geological formation of the watershed is granitic, with some flow over metasedimentary rock. The two mining prospects are for gold and turquoise.

LAND USE: Public lands adjoin the Sequoia National Forest and Domeland Wilderness. Private lands include rural residences between two and one-half to forty acres in size. Livestock grazing occurs on the surrounding private land. The Long Valley Creek flows through an allotment which is grazed only during October 1 to November 30. Most livestock waters are spring sources at the upper reaches of the creek, or at the five artificial check dams constructed near the Long Valley Campground. This is in a slowly expanding rural residential area. There are several mining claims on BLM lands, a land use permit for an apiary site, and right-of-way R4846 for the BLM road and campground.

SCENIC QUALITY: VRM Class III; Scenic Quality B

WATER QUALITY: Poor

ELIGIBILITY CONCLUSION: NON-ELIGIBLE

CLASSIFICATION: Recreational

NAME OF WATER COURSE: **Lower Kern River**

GENERAL DESCRIPTION: The Lower Kern River runs from Isabella Dam (Hwy 178) in Kern County to the Kern Canyon mouth above Bakersfield. Although most of the Lower Kern is situated in the Sequoia National Forest, the upper BLM reaches form the study corridor. These reaches are situated within the Keyesville/Lower Kern Special Recreation Management Area (SRMA) and the Monache-Walker Pass National Cooperative Land and Wildlife Management Area. Access is available via a main dirt road within the SRMA. A four-lane freeway (Hwy 198) bridge crosses the Lower Kern River in T27S, R32E, M.D.M. Sec. 1 and then runs adjacent to it. The public lands are surrounded by Sequoia National Forest and private land.

LEGAL DESCRIPTION: T26S, R33E, M.D.M. Sec. 30, W 1/2; T26S, R32E, M.D.M. Sec. 25, SE 1/4, Sec. 36, E 1/2; T27S, R32E, M.D.M. Sec. 1, NE 1/4 SW 1/4; Sec. 12, NW 1/4

TOTAL MILES/BLM MILES (approximately): 32/3.5

*RECREATIONAL VALUES: Twenty miles out of the 32 mile Lower Kern River draw thousands of river runners each summer. Two designated launch sites, south of the Lake Isabella Main Dam at "BLM South" and "Keyesville Bridge" are on BLM public lands. At normal flows, BLM south to Sandy Flat (the third launch site, on USFS land) is mostly Class II water with a few short Class III rapids. From Keyesville Bridge put-in, brush and trees overhang the riverbed presenting a floater's special hazard. Rafting during normal water years runs from May to September, with waterflows dependent upon releases from Lake Isabella. Normal flows range from 800-3000 cubic feet per second (cfs).

Approximately 12,000 commercial and noncommercial rafters use the area each year. Dispersed camping, recreational mining, shooting, and OHV use occurs on the lands adjoining the river.

ECOLOGICAL VALUES: This segment is an example of a major watershed drainage originating from the Mt. Whitney area of the southern Sierra Nevada Mountains. Riparian vegetation grows intermittently along the boulder-laden channel which has been carved from granitic rock.

*WILDLIFE: The Lower Kern River flows through canyons and boulders. Due to the high relief surrounding the river, there is a significant element of solitude and lack of disturbance from the surrounding hillsides. The topographic relief allows for a tremendous variety of micro-climates which provide a wide diversity of habitats. Sycamores, cottonwoods and interior live oaks line the stream and are bordered by blue oak/digger pine, chaparral and annual grassland. Many game animals reside along the river and on the nearby slopes. Nongame animals reside and migrate through in great numbers. This river system is extremely important to neotropical migrating birds. This river is also habitat for sensitive species such as bald eagle in winter, California spotted owls year-round, and osprey in migration. Dippers nest along this stretch of the river and this may be the only place within Caliente Resource Area where this species nests on Bureau land. This is an important aquatic ecosystem and provides considerable recreational fishing. The fishery that exists on the river consists of rainbow trout, smallmouth bass and channel catfish.

Connected to the Lower Kern River is a large wet meadow complex east of highway 178 and west of the town of Lake Isabella. This meadow is the only natural wetland meadow downstream of Lake Isabella. Two wildlife candidate species are found here, **ferruginous hawk** and **tricolored blackbird**. This large wet meadow adds substantially to the biodiversity of the Isabella area. A willow patch at the southwest corner of the meadow and near the confluence of the Lower Kern may be occupied by **willow flycatchers**, a federal candidate and California threatened species. It is also the southern most nesting area for the Sierran population of the Savannah Sparrow.

SENSITIVE PLANT SPECIES: Alkali mariposa lily, Calochortus striatus, a Federal C2 candidate occurs along this river and may occur within the BLM corridor.

*CULTURAL/HISTORIC: Historically, the area was important for the exploitation of mineral resources. Initial settlement in the Keyesville area came with the discovery of gold by Richard M. Keyes in the mid-1850's. Remnants of this early mining is evident along the Lower Kern River corridor. Due to the poor condition of historic resources along the river corridor, there are no National Register quality sites remaining within or immediately adjoining the river. This segment of the river falls within the Tubatulabal Indian territory. The river has a high occurrence of prehistoric resources ranging from food processing to rock art sites. Although no prehistoric sites have been formally found eligible for the National Register on the public land segments, it is highly probable that sites of this quality are present on BLM. One known pictograph site on a segment of private land is considered significant.

PHYSIOGRAPHY/GEOLOGY: The Lower Kern River flows through Mesozoic granitic rocks. The Kern Canyon fault lies immediately to the southeast of the river. The fault is closest at the Bodfish off-ramp of SR 178 where the freeway is apparently built directly on the fault.

MINERAL RESOURCES and their HISTORY: After discovery of placer gold in the Kern River in the spring of 1854 a stampede of miners entered into the area. The rush continued through 1855 with a swarm of miners in this area. Soon hardrock gold was also discovered. By 1856 the first mill to recover gold was erected in Keyesville. Over the years a number of mills were erected along the Kern River to serve the mines of Keyesville, only to be destroyed by the floods of 1861-1962. In 1865 a

twenty stamp gold mill was built on the river. Numerous other mills were also built along the river, however their location is unknown. A stamp mill associated with the Mammoth Mine stood on the west bank of the river in the southeast quarter of Section 35 as late as 1959. Placer gold mining has continued along the river until the present. Gold continues to be recovered from gravel in the bed and banks of the river by various placer mining techniques.

LAND USE: Surrounding private lands contain rural residences with parcels ranging in size from one to five acres. Livestock grazing occurs on surrounding private lands, and BLM lands bordering the river in an allotment from March 1 to May 31. There are mining claims on nearby BLM lands, and ten rights-of-way (CA 5549 easement from U.S., S 20144 for power line to Southern California Edison Co., CA 16439 for road to E. Lunenschloss, CA 5043 for road to J. Nemish, S 47496 for power line to Southern California Edison Co., S 78122 for Highway 178 and drainage easement, S 47108 for gaging station to Corps of Engineers, CA 15778 for road to C. Mehalko, CA 14324 for power line to Southern California Edison Co., and CA 14022 for road to D. Anderson).

SCENIC QUALITY: VRM Class II; Scenic Quality B+

WATER QUALITY: Fair

ELIGIBILITY CONCLUSION: ELIGIBLE (due to combination of recreational, wildlife, historic and possibly plant resources). Note: The USFS studied this river corridor and concluded "non-eligibility". However, this conclusion is being reevaluated in their suitability study.

CLASSIFICATION: Recreational

NAME OF WATER COURSE: **Middle Fork of the Kaweah River**

GENERAL DESCRIPTION: The Middle Fork of the Kaweah River extends from the confluence of several creeks in Sequoia National Park near Redwood Meadows to the resort community of Three Rivers in Tulare County. Most of the land which the river crosses is within Sequoia National Park or is privately-owned. The BLM study corridor flows next to the main access road, Hwy. 198, to Sequoia National Park, and adjacent to the Milk Ranch/Case Mountain WSA.

LEGAL DESCRIPTION: T17S, R29E, M.D.M. Sec. 37.

TOTAL MILES/BLM MILES: 10 miles / 1000 feet

RECREATIONAL VALUES: Within Sequoia National Park there is a popular hiking trail along their corridor of the Middle Fork of the Kaweah. However, the BLM section is so short that recreational usage is not documented. The river across BLM lands flows so close to Highway 178 that solitude is limited, but access for fishing is possible.

ECOLOGICAL VALUES: This segment is a typical example of a low elevation major drainage originating from the upper reaches of the Southern Sierra Nevada Mountains. Much of the stream channel has carved its bed through solid granite. Minimal streamside riparian vegetation exists in pockets along the stream channel. Common dominant plants from the Kaweah drainage are sycamore, willow, interior live oak and ash. The adjacent slopes are variously covered by chaparral, blue oak/digger pine and black oak. A rainbow fishery exists in this stream.

WILDLIFE: The diverse riparian community along the entire Kaweah River drainage system provides habitat for mule deer, black bear, gray fox, California and mountain quail, wood duck, common mergansers, many nongame species including Cooper's hawk and osprey, California species of special concern, and the bald eagle (in winter). This drainage provides a migratory network leading into the Sierra Nevada Mountains which is a crucial link to the higher altitudes including Kings Canyon/Sequoia National Park. This riparian system is an important migratory stopping place and corridor for declining neotropical migrating birds.

*SENSITIVE PLANT SPECIES: Mouse buckwheat, Eriogonum nudum var. murinum, a Federal C-2 candidate plant and Kaweah brodiaea, Brodiaea insignia, a state of California endangered and Federal C-2 candidate, occur on BLM land within the river corridor.

CULTURAL / HISTORIC: This segment of the Middle Fork of the Kaweah falls within the ethnographical boundary of the Patwisha, a Western Mono group. Two prehistoric sites are known along this short segment of the Middle Fork. No formal evaluation of the prehistoric sites has been completed to determine their significance at present. There are no known historic sites of significance located on BLM public land along this river corridor. The area is regarded sensitive for the potential high occurrence of both prehistoric and historic resources.

PHYSIOGRAPHY/GEOLOGY: This short stretch of BLM administered land is underlain by Mesozoic granitic rock.

LAND USE: Surrounding private lands include residential and rural residential with parcels ranging in size from half an acre to twenty acres. Approximately .2 miles of the Middle Fork flows through the corner of a grazing allotment (# 00061) which is used from April 1 to September 30 each year. There are no mining claims and only one right-of-way: CA 16680 for water facility to BL&I Industries. There are withdrawals on adjoining public land for power projects including a conduit, penstock, roads and a ditch. The following developments can be seen from the river corridor: houses, gaging station, a power line running parallel to the river, flume, parallel trails and the paved road and the ending of a primitive road.

*SCENIC QUALITY: VRM Class III; Scenic Quality A

WATER QUALITY: unknown

ELIGIBILITY CONCLUSION: ELIGIBLE (sensitive plant species and scenic quality); Should be studied for Wild and Scenic River suitability but National Park Service should be lead agency; BLM has very limited public land adjacent to river.

CLASSIFICATION: Recreational

NAME OF WATER COURSE: **North Fork of the Kaweah River**

GENERAL DESCRIPTION: The North Fork of the Kaweah flows out of the southern Sierra Mountains and forms part of the border between Sequoia National Forest and Sequoia National Park. BLM's study corridor begins 1000 feet south of the junction of Pierce Creek and the North Fork of the Kaweah River, approximately 5 miles north of the town of Three Rivers and about 24 miles northeast of Visalia, in Tulare County. The North Fork generally flows in a southerly direction to the confluence

of the main fork of the Kaweah River. A locally-maintained paved and partially graded road runs within one-half mile along the entire length of the BLM contiguous corridor and has contributed to high use of the BLM parcels. This road serves access for fire emergency vehicles to private and National Park Service lands further north. The North Fork is within the Sheep Ridge WSA and borders the Milk Ranch/Case Mountain WSA. Non-BLM land south of the Forest/Park boundaries is in private ownership.

LEGAL DESCRIPTION: T15S, R28E, M.D.M., Sec. 27, NE 1/4; Sec. 26, S 1/2; Sec. 35, NE 1/4, SE 1/4; Sec. 34 (tangent to BLM parcel),; T16S, R28E, M.D.M., Sec. 2, E 1/2; Sec. 11, NE 1/4; Sec. 13, W 1/2; Sec. 24, W 1/2; Sec. 23, SE 1/4; Sec. 26 SE 1/4; T17S, R28E, M.D.M. Sec. 2, NW 1/4.

TOTAL MILES/BLM MILES (approximately): 6 / 4

RECREATIONAL VALUES: Sections of BLM's North Fork corridor are part of two wilderness study areas: Sheep Ridge and Milk Ranch/Case Mt. WSAs, both of which have been recommended by BLM as unsuitable for wilderness. Land in the Sequoia and King Canyon's National Parks, just southeast of the river is managed as wilderness. Three accessible areas along BLM's corridor receive high recreational use in the form of non-commercial kayaking, fishing, picnicking, swimming, sunning, dispersed camping and water play. These areas are Cherry Falls, Advance Site and Picnic Site # 1. The region's topographic variation, rugged, rocky terrain and vegetative variety combine to create areas of seclusion. However, the area is periodically overflown by military aircraft. The majority of the users are local residents; regional and national visitors are drawn to the National Park lands which are in close proximity.

ECOLOGICAL VALUES: This segment is a good example of a low elevation (2000 feet) drainage originating from South Sierra alpine elevations. Vegetation along the North Fork of the Kaweah and the other drainages of the Kaweah contains examples of habitat types often in excellent condition. It is a mixture of riparian forest, scattered oaks and grasses and dense chaparral on the drier, south-facing slopes. Common dominant plants are sycamore, willow, interior live oak and ash. The adjacent slopes are variously covered by chaparral, blue oak, digger pine and black oak. A rainbow trout fishery exists in this stream.

*WILDLIFE: The diverse riparian community along the entire Kaweah River drainage system provides habitat for mule deer, black bear, gray fox, California and mountain quail, wood duck, common mergansers, many nongame species including Cooper's hawk and osprey, California species of special concern, and the bald eagle (in winter). This drainage provides a migratory network leading into the Sierra Nevada Mountains which is a crucial link to the higher altitudes including Kings Canyon/Sequoia National Park. This riparian system is an important migratory stopping place and corridor for declining neotropical migrating birds.

SENSITIVE PLANT SPECIES: There are no documented locations of any sensitive plant species within this river corridor.

*CULTURAL/HISTORIC: The area ethnographically is situated at an interface between two Native American cultures. The Waksachi, a Mono group, were centrally located in the Epsom Valley area, but they also utilized lands to the south along the North Fork of the Kaweah within the northern portion of the river corridor. The Wukchumni, a Yokuts group occupied lands on the southern portion of the corridor along the Kaweah River extending from the vicinity of Three Rivers community to the west near Lemoncove. The North Fork of the Kaweah River was the scene of a utopian socialism experiment between 1884 to 1891. This was generally referred to as the Kaweah Colony but also known as the Kaweah Cooperative Commonwealth. It has been described as a form of German

socialism that envisioned an idealistic cooperative colony in which the working members would own and control production and profit accordingly. Arcady, which was later named Haskell's Bluff, was the first colony settlement a few miles up the North Fork. The first task of the colony was to build a road to the timber claims so pine and redwood lumber could be transported from a sawmill in the timber area to a mill for processing. Advance, an area a few miles up the North Fork from Arcady, was a focal area for road construction. Work was initiated in 1886, and as work progressed, other camps in addition to Advance were developed. After four years, the road was completed and a mill was in operation cutting lumber at a rate of 3,000 board feet per day. Due to the creation of the Sequoia National Park by Congress, the Secretary of the Interior soon confirmed timber claims within the Park as invalid. By 1892, the colony disbanded and moved away. Within one quarter of a mile of the river corridor there are four known prehistoric sites and one historic site (Advance). No formal evaluation of these sites has been developed at present; therefore, the significance of these cultural sites is uncertain. The remains at the Advance Site appear to lack physical integrity; however, the site does possess local historic interest. The river corridor is regarded as culturally sensitive for the occurrence of prehistoric and historic resources.

PHYSIOGRAPHY/GEOLOGY: Most of the North Fork flows through pre-Cretaceous metasedimentary rock. The northern three miles flows through Mesozoic granitic rock. Live Oak Gulch is granitic rock. The metasedimentary rock has potential for tungsten, but there are no known occurrences on public land.

LAND USE: Surrounding private lands include rural residences ranging in size from two and one-half to forty acres in size. Livestock grazing takes place on private lands, and several BLM allotments occur on the lands surrounding the River. The North Fork of the Kaweah flows through the eastern edge of allotment 00017. This pasture is unfenced from the river for approximately 1.75 miles, and is seasonally grazed as forage is available from October 1 to July 30. The remaining half mile is fenced from livestock. In allotment 00102, cattle can be grazed at any time of the year, but usually use occurs during winter and spring. The North Fork serves as the eastern boundary of this allotment for 2.5 miles, and keeps cattle from drifting eastward into the Park. Cattle will water at the river in the limited accessible riverbank stretches. The river also flows through .25 miles of allotment 00095. It is accessible for the full length to cattle that graze during the season of March 1 to June 30. There are four rights-of-way on BLM land along the N.Fork of the Kaweah (S 074189 for firebreak, CA 1830 for power transmission line to Southern California Edison Co., CA 5076 for road to E&S Mitchell, S 40969 for transmission line to Southern California Edison Co.). From the river corridor the following developments are visible: old mining buildings (in the northernmost section of BLM lands), primitive camping and picnic sites, trails which parallel and end at the river, and the paved and gravel road which parallels the river.

*SCENIC QUALITY: VRM Class II; Scenic Quality A

WATER QUALITY: Fair (in drought times, coliform and fecal coliform contamination is high); algae growth and trash is found in the river at high use areas.

ELIGIBILITY CONCLUSION: ELIGIBLE (due to wildlife values, scenic quality and cultural interest); Suitability study should be done in conjunction with the National Park Service (NPS) and private landowners with BLM (or NPS) as the lead agency.

CLASSIFICATION: Scenic (for the stretch of the river north of the NPS locked gate); Recreational (for the stretch of the river south of the NPS locked gate). Locked gate is in T16S, R28E, M.D M. Sec. 12, SW1/4.

NAME OF WATER COURSE: **Pine Creek**

GENERAL DESCRIPTION: Pine Creek is a tributary of the South Fork of the Kern River. It is located in Tulare County between Sacatar and Rockhouse Basin Wilderness Study Areas, largely along the paved road which links Kennedy Meadows to the Nine Mile Canyon Road. It falls into the Monache-Walker Pass National Cooperative Land and Wildlife Management Area. The main developments visible from the creek are a paved road and a dirt road, both paralleling the creek and private property at either end of the study corridor.

LEGAL DESCRIPTION: T23S, R36E, M.D.M. Sec. 3, W 1/2; Sec. 4, NE 1/4; T22S, R36E, M.D.M. Sec. 33

TOTAL MILES/BLM MILES (approximately): 5/1.8

RECREATIONAL VALUES: Although this creek contributes to the scenic surroundings of the area, it offers little opportunity for solitude as it is very close to the road with easy access. The many recreational opportunities in this area, especially within the WSAs, such as hunting, hiking, camping, picnicking, and OHV use and mountain bicycling, are not dependent upon Pine Creek. There is a washed out low-headed dam constructed possibly for recreational fishing and access across the creek, located at a pull-off from the access road.

ECOLOGICAL VALUES: Pine Creek is a typical low volume perennial stream running through a pinyon-juniper conifer type forest. Much of the stream course runs over granitic rocks. The thin and intermittent stream-side riparian zone consists of low growing willow trees found along the entire segment. This creek, very typical of the area, is similar to Long Valley and Chimney Creeks.

WILDLIFE: This drainage system flows through extensive pinyon pine and sagebrush/bitterbrush uplands. The streamside vegetation is variously dominated by grass and sedge, willow, pinyon pine and Jeffrey pine. The drainage system is an important breeding area, migratory corridor and wintering area for the Monache mule deer herd. The willow habitats are important nesting areas for the **willow flycatchers** as well as for other nesting and migratory neotropical migrating birds. The drainage is generally in good condition and provides a good example of this habitat in the southern Sierras. Nesting populations of the Federal candidate, **California spotted owl**, are found within this drainage system.

SENSITIVE PLANT SPECIES: There are no documented locations of any sensitive plant species within this river corridor.

CULTURAL/HISTORIC: Ethnographically, Pine Creek falls within the territory that was primarily claimed by the Tubatulabal cultural group. Only one prehistoric site is recorded along the tributary on BLM. Although the site has not been formally evaluated, preliminary investigations indicate the site is not eligible for the National Register. No historic resources are recorded along this stretch of the creek. The area is assigned a high probability for the potential occurrence of prehistoric resources.

PHYSIOGRAPHY/GEOLOGY: The Creek flows through Mesozoic granitic rocks.

LAND USE: Public lands adjoin the Sequoia National Forest. Private lands include rural residences between two and one-half to 40 acres in size. Pine Creek flows through allotment 00125, which is

grazed by cattle from approximately August 15 to September 30. Cattle will water at a spring at the source of the creek (Boy Scout spring) and from the creek surface water. Livestock grazing also occurs on the surrounding private land. This is in a slowly expanding rural residential area. There are no mining claims. BLM's one right-of-way is CA 19928 for road to Precise Machine and Tool).

SCENIC QUALITY: VRM Class III; Scenic Quality = C+

WATER QUALITY: Fair

ELIGIBILITY CONCLUSION: NON-ELIGIBLE

CLASSIFICATION: Recreational

NAME OF WATER COURSE: **Salinas River**

GENERAL DESCRIPTION: The Salinas River flows from Los Padres National Forest to Monterey Bay in the Pacific Ocean. BLM's study corridor lies approximately four and one-half miles upstream of Santa Margarita Lake, or about eight miles northeast of the town of Santa Margarita in San Luis Obispo County. The "lake" (reservoir) is the domestic water source for the City of San Luis Obispo.

LEGAL DESCRIPTION: T29S, R13E, M.D.M. Sec. 25 SW 1/4, Sec. 36, NW 1/4.

TOTAL MILES/BLM MILES (approximately): 40 / 1

RECREATIONAL VALUES: Recreation is limited as access is difficult. The BLM corridor is landlocked by private property and the river is in a steep canyon. There is moderate access up the river from the BLM corridor if permission is obtained to cross private land. Recreational activities are limited to hunting, hiking and horseback riding. However, there are abundant day-use recreational opportunities at the reservoir including fishing, boating, hiking, horseback riding, nature study, picnicking, swimming and environmental education.

*ECOLOGICAL VALUES: The BLM corridor has high value as a riparian area ranging from riparian forests of cottonwood, sycamore and willow trees to dense thickets of streamside mulefat and coyote bush. Water, food, and protection is afforded to the local fauna. The riparian belt of the Salinas River is unique for the area, since it is located along an isolated major drainage. The flow of the Salinas River, including the BLM corridor, is controlled by Santa Margarita Lake. The flow within the study area is slowed by beaver dams.

*WILDLIFE: A wide diversity of species are drawn to the area year round. The riparian vegetation is habitat for many nongame and game animals and is used by many migratory birds and bats. The federally endangered Least Bell's Vireo formerly nested along this river, and this portion may be important for recovery of this rare bird. This largely perennial stream and its accompanying vegetation provides suitable habitat for an abundant aquatic flora and fauna. The excellent condition of the habitat along with its physical alignment with the Coast Ranges makes it an extremely important migratory corridor for a group of birds known as the neotropical migratory birds which are showing severe declines throughout the country.

Due to steep topography adjacent to the river, the riparian vegetation comes in contact with several

major plant communities found in the Coast ranges. This diversity adds greatly to the number of animals using the river system.

SENSITIVE PLANT SPECIES: Hardham's evening primrose, Camissonia hardhamiae, a C2 candidate species for Federal listing occurs along the Salinas River but is not documented from the BLM corridor. Another C2 Candidate species that may occur along the river is the one-awned spineflower, Chorizanthe rectispina.

CULTURAL/HISTORIC: Geographically, the river corridor is situated near the interface of two pre-contact Native Californian Indian cultural groups. It appears that the two indigenous groups represented are the Migueleno or southern Salinan and the Obispeno, also known as the northern Chumash. Traditionally, the interior boundary of the two cultures was placed in the general vicinity of the Santa Margarita divide, situated just below the Salinas River. More recent research suggests the interior boundary of the two cultural groups may have been located as far north as Paso Robles. There are eight prehistoric sites along this stretch of the Salinas River within one quarter mile of the corridor. The majority of these sites are on private land. Historically, the Asistencia of Santa Margarita was constructed (circa 1809) for use as a chapel and storehouse for Mission San Luis Obispo. Between 1834 and 1846 secularization and dispersement of mission property in California occurred. This resulted in missions being broken up into numerous large Mexican land grants. The boundary of one of these land grants, Rancho Santa Margarita, is within one quarter mile of the proposed WSR corridor. However, there are no recorded historic sites per se within close proximity of the river. Currently, no formal evaluation of the prehistoric sites have been conducted to determine their significance. The area is regarded culturally sensitive for the potential occurrence of prehistoric and historic resources.

PHYSIOGRAPHY/GEOLOGY: The BLM portion is entirely underlain by Cretaceous granitic rock. Most of the rock is deeply weathered and commonly decomposed, giving rise to a highly dissected terrain that supports a dense growth of chaparral. Slightly weathered rock is intermittently exposed along the Salinas River.

LAND USE: Public land is approximately three miles north of the Los Padres National Forest boundary and two miles northwest of Santa Margarita Lake. Surrounding private land contains dispersed rural ranchettes approximately 20 to 80 acres in size. There are no mining claims. The 440 acre BLM parcel was determined to be unsuitable for livestock grazing due to steep slopes and dense brush outside of riparian areas. There is a potential for unauthorized grazing to occur on this parcel from adjacent private land, since it is unfenced.

*SCENIC QUALITY: VRM Class III; Scenic Quality A

WATER QUALITY: Good

ELIGIBILITY CONCLUSION: ELIGIBLE (Should be studied for eligibility due to scenic quality, uniqueness, wildlife values and ecological importance as a river corridor in this region. Study must be done in conjunction with state of California, USFS and numerous landowners. BLM's corridor is insignificant in comparison to miles of corridor of other landowners. BLM should cooperate with study, but not be the lead agency).

CLASSIFICATION: Scenic

NAME OF WATER COURSE: **Salt Creek**

GENERAL DESCRIPTION: Salt Creek is located between Highway 198 and Case Mountain (6,818 feet) in Tulare County, near Sequoia National Park. It joins the middle fork of the Kaweah River at a point nearly midway between the towns of Three Rivers and Hammond. Its steep, rocky terrain has been, to date, virtually landlocked from public access by private property. BLM may acquire public access to the Creek; this issue is discussed in the RMP.

LEGAL DESCRIPTION: T17S, R29E, M.D.M. Sec. 42; Sec. 43, SW 1/4; Sec. 45, NE 1/4; Sec. 44.

TOTAL MILES/BLM MILES (approximately): 5.5/2.2

RECREATIONAL VALUES: Very limited due to its present status as landlocked and its difficult physical access. Local landowners and their friends camp and hike along accessible stretches of the creek, and admire the waterfalls.

ECOLOGICAL VALUES: Much of the Creek contains a thin ribbon of stream-side riparian vegetation and is considered good wildlife habitat. The stream flows occur generally during the winter and spring months, drying up in the summer. Areas of localized perennial water can be found in the stream channel where spring-fed.

WILDLIFE: This drainage is an important tributary to the Kaweah River system and shares all of the characteristics of that system. Additionally, the headwaters of the drainage are intricately connected to ancient groves of Giant Sequoias. These groves are no doubt responsible for the hydrological regime of the Salt Creek and home to California spotted owls, a Federal C2 candidate for listing. Many vertebrates are restricted to this type of habitat and this is the only example of this habitat on Bureau land.

FLORA: Springville clarkia, Clarkia springvillensis, listed as endangered by the state of California and a Federal category 1 candidate, occurs along Salt Creek, but has not been documented from BLM lands.

CULTURAL/HISTORIC: The Patwisha, a Mono group, centrally occupied the territory ethnographically just below the confluence of the North and Middle Forks of the Kaweah River. Hence, the Patwisha apparently lived in large villages along the Middle Fork of the Kaweah River and at the confluence with Salt Creek. The stretch of BLM public land along Salt Creek is considered to be at least moderately sensitive for the potential occurrence of prehistoric resources. Three prehistoric sites are recorded along the corridor; however, no formal evaluation of site significance has been conducted to date. There are no known historic resources along this segment of Salt Creek.

PHYSIOGRAPHY/GEOLOGY: The Creek flows through Mesozoic granitic rock. There are two substantial waterfalls with 100 foot drops over a granitic escarpment. These waterfalls are presently located on private land.

LAND USE: Some livestock grazing, hunting, and timber production occurs on public lands. The Salt Creek drainage travels through two allotments which may run cattle at anytime during the year. Stock water is captured by either reservoirs or spring developments with troughs. There is no year-round surface water available to livestock in these allotments. There are no mining claims on public lands. One right-of-way has been granted (CA 4797 for road to Sequoia Forest Industries). Hunting

and timber production occurs on surrounding private land.

SCENIC QUALITY: VRM Class III; Scenic Quality B

WATER QUALITY: Fair

ELIGIBILITY CONCLUSION: NON-ELIGIBLE

CLASSIFICATION: Scenic

NAME OF WATER COURSE: **Soda Lake**

GENERAL DESCRIPTION: Soda Lake lies adjacent to the southwest edge of the San Joaquin biogeographic province in San Luis Obispo County, separated from the San Joaquin Valley floor by the Temblor Range. It is situated half-way between Bakersfield and San Luis Obispo on Highway 58, and is the dominant feature of the recently designated Carrizo Plains Natural Area. Development around the lake is being kept to the minimum to preserve the scenic integrity. It is possible to drive a partially paved, but mostly dirt road around Soda Lake. This road approaches the lake bed at varying distances, from right on its edge to one-half mile away. From parts of this large lake, evidence of grazing, houses, and a powerline are visible.

LEGAL DESCRIPTION: T31S, R19E, M.D.M. Sec 1, SW 1/4; Sec. 2; Sec. 11, E 1/2; Sec. 12; Sec. 13; Sec. 14 NE 1/4; Sec. 24 N 1/2; T31S, R20E, M.D.M. Sec. 18; Sec. 17; Sec. 2O, W 1/2; Sec. 19, N1/2.

TOTAL MILES/BLM MILES (approximately): 12 square miles or 102 miles of shoreline/10 square miles.

*RECREATIONAL VALUES: This outstanding area offers an opportunity to view, appreciate and study the dynamics of a unique natural community. Soda Lake attracts worldwide visitation from birdwatchers, both individually and in commercial tours, as well as other conservation groups. Compatible visitor use facilities are planned and in the process of development.

*ECOLOGICAL VALUES: Soda Lake, the largest remaining natural alkali wetland in California, is a distinctive hydrologic type known as a seasonal astatic habitat (a lake that may fill and redry one or more times during any given year depending on the seasonal nature of precipitation and drought). Water is often present in the lake from December to April, infrequent in May and June, and rare in September and October after thunderstorm-induced flash floods.

*WILDLIFE: This ephemeral lake is a magnet to migratory waterbirds and raptors during the winter and spring when water arrives and causes a tremendous algal and fairy shrimp bloom. Often, up to ten thousand lesser sandhill cranes and dozens of greater sandhill cranes, a State listed and Federal candidate, spend several months of the winter and early spring getting in a proper physiological state for the long spring migration and breeding season. The peregrine falcon and bald eagle, State and Federally listed, occasionally winter in the area feeding on waterbirds drawn to the Lake. More commonly, wintering and nesting northern harriers and prairie flacons make use of the animals at Soda Lake. The western snowy plover, a Federal candidate, has been seen on Soda Lake and may well nest there. The aquatic food chain is driven by three species of fairy shrimp which are

not known to occur elsewhere. All three species are Federal candidates.

The surrounding vegetation, largely present because of the high water table, is an outstanding example of the extremely rare and highly endangered alkali sink scrub and valley saltbush scrub habitats. These habitats contain a number of listed animals such as the San Joaquin kit fox, San Joaquin antelope squirrel, giant kangaroo rat and the blunt-nosed leopard lizard, and Federal candidate short-nosed kangaroo rat.

*SENSITIVE PLANT SPECIES: The vegetation surrounding the lake supports stands of Valley Sink Scrub, one of the world's rarest community types. Two annual saltbush species, Lost Hills saltbush, Atriplex vallicola, and heart-leaved saltbush, A. cordulata, are known to occur around the lake. Both species are Federal C2 candidate plants. Another locally rare species that occurs around the lake, Jared's peppergrass, Lepidium jaredii, has recently been petitioned for emergency Federal listing.

*CULTURAL/HISTORIC: Soda Lake is centrally located in the confines of the Carrizo Plain. The plain lies between the known territories of three different Native California groups. Specifically, villages attributed ethnographically to the Salinan are found to the north in the Cholame Valley; the Yokuts were centrally located to the east in the San Joaquin Valley; and the Interior Chumash established villages in Cuyama Valley and the San Emigdio Mountains. Based upon limited archaeological investigations and the style of rock art found on the Carrizo, this information suggests the area was primarily used by the Chumash and perhaps to a much lesser degree by the Yokuts. There are no formally recorded prehistoric sites within one-quarter mile of the study area; however, one historic mining site is known. In the 1880s the saline deposits at Soda Lake were mined for use at nearby cattle ranches. Prior to 1908, the Carisa Chemical Company invested $60,000 for a plant and narrow-gauge railroad on the east side of the lake for the extraction of sodium sulphate. Between 1923 and 1925 the operation was active, and the product was hauled to McKittrick by a combination of the railroad and truck. In 1934 the plant was moved from the south side of the lake to the north and a small amount of mineral was produced. Various physical remains exist on the ground to mark the location of the mining operation; however, the physical integrity of the site is considered to be in poor condition.

PHYSIOGRAPHY/GEOLOGY: The Carrizo Plain is a structural depression (an area of interior drainage), which has resulted in the formation of Soda Lake. In 1912, Hoyt Gale, with the U. S. Geological Survey, estimated that Soda Lake contained reserves of over a million tons of sodium sulphate. The BLM has classified Soda Lake prospectively valuable for sodium. Sodium sulphate is used primarily in the production of kraft paper. In California today, sodium sulphate is recovered from Searles Lake.

LAND USE: This area is designated an Area of Critical Environmental Concern (ACEC). Additionally, it lies within the Carrizo Plain Natural Area (CPNA). The surrounding private lands which are expected to be acquired by BLM for the CPNA are open space and scattered ranches. There is some livestock grazing as well as some agricultural development on The Nature Conservancy and State lands. However all public lands within 1/4 mile of highwater mark are closed to grazing. The area is partially fenced, but does have the possibility of unauthorized sheep grazing from private lands on the north and east sides of the lake. There are no mining claims, one oil/gas lease and two rights-of-way: (S2538 to PG&E for power transmission line and access road, and S077189 to AT&T for buried telephone line and communication site).

*SCENIC QUALITY: VRM Class II; Scenic Quality A. One of the splendors of this area is the vast, unobstructive views adjacent to and across the lake, virtually a "sea of nothingness" bordered by the Temblor and Caliente Ranges. This unaltered open space is priceless, especially considering that

the intensively developed oil and gas fields of the San Joaquin Valley lap at its borders, and the megalopolis of Los Angeles and the southern California coast are close-by.

WATER QUALITY: Poor

ELIGIBILITY CONCLUSION: ELIGIBLE (due to ecological, geological, recreational, floral and faunal T&E species, and historic resources)

CLASSIFICATION: Scenic

NAME OF WATER COURSE: **South Fork of the Kaweah**

GENERAL DESCRIPTION: The South Fork of the Kaweah River starts at the confluence of several creeks above Clough Cave in Sequoia National Park, in Tulare County. It flows in a westerly, northwest direction to meet the main fork of the Kaweah below the town of Three Rivers. The river flows close to a small parcel, but not on BLM land. The remainder of the South Fork flows across privately-owned land and in its upper reaches, Sequoia National Park. A local paved and graded dirt road parallels the river corridor.

LEGAL DESCRIPTION: T18S, R29E, M.D.M., Sec. 23 (tributary). Main stream does not flow on BLM land.

TOTAL MILES/BLM MILES: 12 miles/none

RECREATIONAL VALUES: Not significant

ECOLOGICAL VALUES: This segment is a typical example of a low elevation major drainage originating from the upper reaches of the southern Sierra Nevada Mountains. Most of the segment is not impacted from human uses. The stream tends to be a high energy stream course. Portions of the channel are occasionally scoured by high stream flows. Good examples of low elevation south Sierran streamside riparian habitat are found along this stream. A rainbow trout fishery exists in this stream.

WILDLIFE: The diverse riparian community along the entire Kaweah River drainage system provides habitat for mule deer, black bear, gray fox, California and mountain quail, wood duck, common mergansers, many nongame species including Cooper's hawk and osprey, California species of special concern, and the bald eagle (in winter). This drainage provides a migratory network leading into the Sierra Nevada Mountains, which is a crucial link to the higher altitudes including Kings Canyon/Sequoia National Park. This riparian system is an important migratory stopping place and corridor for declining neotropical migrating birds.

SENSITIVE PLANT SPECIES: Kaweah brodiaea, Brodiaea insignis, a plant species listed by the State of California as endangered and a Federal C2 candidate for listing occurs within one-quarter mile of this river on BLM land. Kaweah monkeyflower, Mimulus norrisii, a category 3C candidate for Federal listing and mouse buckwheat, Eriogonum nudum var. murinum, a Federal C2 plant, occur along the river but have not been documented on BLM land in that area.

CULTURAL / HISTORIC: This segment of the South Fork lies to the south of the area occupied by

two cultural groups. The Patwisha Mono group were centrally located below the Middle Fork of the Kaweah in the Salt Creek vicinity. The Wukchumni, a Foothill Yokuts group, ethnographically lived along the Kaweah River stretching from the vicinity of Three Rivers community to the west near Lemoncove. There are no formally recorded prehistoric or historic resources on BLM public land along tributaries south of the South Fork. However, the area is regarded as sensitive for the potential occurrence of prehistoric resources.

PHYSIOGRAPHY/GEOLOGY: The Creek flows through Mesozoic granitic rock.

LAND USE: Cattle drifting over from adjacent unfenced private lands makes for a high probability that the riverine habitat is grazed. There are no BLM land use authorizations within 1/4 mile of the river nor are there any mining claims.

SCENIC QUALITY: VRM Class III; Scenic Quality B

WATER QUALITY: Unknown

ELIGIBILITY CONCLUSION: NON-ELIGIBLE (This determination is due to the presence of sensitive plant species near the river corridor coupled with the scarcity of BLM lands. Should the National Park Service lead a Wild and Scenic River study, the BLM should be a contributing agency).

CLASSIFICATION: Recreational

NAME OF WATER COURSE: **South Fork of the Kern River**

GENERAL DESCRIPTION: The South Fork of the Kern River flows out of Sequoia National Forest into Isabella Lake and reaches BLM land in a small area of broad valley and floodplain along Highway 178 near Onyx in Kern County. The BLM corridor falls into the Domeland Wilderness Study Area, recommended unsuitable for wilderness by the BLM. Public land adjoins the Sequoia National Forest and is within the South Fork Cooperative Management acquisition area. It also falls within the Monache-Walker Pass National Cooperative Land and Wildlife Management Area.

LEGAL DESCRIPTION: T25S, R35E, M.D.M., Sec. 34 SE 1/4; Sec. 35 SW 1/4; T26S, R35E M.D.M, Sec. 4.(wetland area)

TOTAL MILES/BLM MILES: 83/.8

RECREATIONAL VALUES: Some local fishing may occur here.

*ECOLOGICAL VALUES: The South Fork of the Kern is an excellent example of a major drainage leading out of the high Sierras through undeveloped lands into the South Fork valley. The BLM river corridor occurs in a wide riparian zone with a strong water flow. A riparian forest surrounds the water course, dominated with cottonwood trees, alders and willows and containing a diversity of herbaceous species.

*WILDLIFE: The South Fork of the Kern River contains the largest continuous stand and one of the last stands of cottonwood riparian remaining in the Central Valley of California. This riparian system contains a diverse flora and fauna, further enhanced by the diversity of adjacent major floristic

provinces such as the Sierran, Mojave, Great Basin and Californian. The convergence and mixing of these floristic provinces occurs nowhere else. A regionally significant diversity of game and nongame species is documented to occur along this drainage system. Important research is underway on the population biology and habitat requirements of yellow-billed cuckoo, summer tanager and willow flycatcher.

The upper reaches of the drainage contain appropriate habitat for California spotted owls. Surveys are currently being conducted to determine the number of birds in the region. The South Fork of the Kern River is a regionally significant migratory corridor and nesting area for neotropical migrating birds.

*SENSITIVE PLANT SPECIES: Mimulus pictus, a California Native Plant Society listed 1B species and Calochortus striatus, a Federal candidate 2 species, both occur within one mile of public land.

LAND USE: Livestock grazing, irrigated pastures, and intensive agricultural development occur on surrounding private lands. The South Fork of the Kern River flows through .8 miles of allotment 00080 on BLM land. This portion of the allotment is unfenced, as is the river from private pasture land that adjoins it. There is also an unfenced and unalloted 80 acre parcel of public land on the South Fork of the Kern within .5 mile of the parcel described above. This parcel is most likely grazed without authorization. Grazing therefore does occur on the BLM river riparian areas, which also provide shade. There are three rights-of-way (CA9471 for road to C. Allen, LA 01613327 for phone line to Contel and CA 16852 for the highway (Federal Highway Act)).

*CULTURAL / HISTORIC: This segment of the South Fork of the Kern River played an important role in the historical development of this area. William Scodie was proprietor of the first store built in Onyx in the 1860s. The historic Cottage Grove Cemetery is found nearby Onyx. Several ranches such as the Bloomfield, Smith, and Onyx Ranches attest to the historical importance of ranching along the South Fork. This area ethnographically is at the interface between the Tubatulabal and the Kawaiisu Indians; however, the stretch along the river is considered within Tubatulabal territory. There are no formally recognized cultural properties of significance within this segment of the South Fork corridor, although prehistoric sites of potential significant value are known along the river.

PHYSIOGRAPHY/GEOLOGY: Exposed granitic rock outcrops can be observed along the entire stream course. The stream itself flows through quaternary alluvium. There is potential for sand and gravel extraction.

*SCENIC QUALITY: VRM Class IV; Scenic Quality A

WATER QUALITY: Fair

ELIGIBILITY CONCLUSION: ELIGIBLE (Due to the combination of ecological, wildlife, prehistoric and historic, and scenic quality values); T25S, R35E M.D.M. Sec.34 SW1/4 SE1/4 is non-eligible due to its high potential for sand and gravel extraction. BLM's study corridor is limited; USFS has designated the portion of the S.Fork which flows through their land a Wild and Scenic River. In the Sequoia Forest Land Management Plan the BLM segment of the S. Fork was labeled as "non-eligible" due to diversions and lack of perennial water. However, since their plan was written, guidelines have been altered; BLM guidelines are broader as to what constitutes an eligible corridor.

CLASSIFICATION: Recreational

NAME OF WATER COURSE: **Spanish Needles Creek**

GENERAL DESCRIPTION: Spanish Needles Creek is a tributary of the Canebrake watershed, located partially within the Owens Peak Wilderness Study Area, and also within the Monache-Walker Pass National Cooperative Land and Wildlife Management Area. The closest settlements are Canebrake and Onyx; both towns are located on Highway 178. The river corridor crosses both BLM and private lands. A dirt road parallels the creek approximately 50% of its length. Evidence of human impact is low. Developments, other than the dirt road, include the crossing of the Pacific Crest National Scenic Trail, fences, dirt tracks and a spring box. Impacts from cattle grazing are high.

LEGAL DESCRIPTION: T25S, R37E, M.D.M. Sec. 7; Sec. 8; Sec. 9; T25S, R36E, M.D.M.Sec. 12, S 1/2; Sec. 14.

TOTAL MILES/BLM MILES (approximately): 5/4

RECREATIONAL VALUES: The Creek provides a reliable water source for PCNST users; consequently, dispersed camping occurs near the river. Otherwise, access is blocked by private property.

ECOLOGICAL VALUES: An intermittent ribbon of low-growing willow trees grows along the creek. Spanish Needles Creek can become dry in places during the summer and is very typical of the creeks found in the region.

*WILDLIFE: The scattered cottonwood groves and clumps of willow and coyote bush are oases surrounded by one of the most diverse areas in the country. The area immediately adjacent to this drainage supports plants and animals with affinities for the Mojave Desert, the Great Basin, the Sierran Mountain Province and the Central Valley. Spanish Needles is an important representative of this edge effect of four bioregions.

*SENSITIVE PLANT SPECIES: Dedecker's clover, Trifolium dedeckerae, a category 3C candidate for Federal listing, and Spanish Needle onion, Allium shevockii, a California Native Plant Society list 1B species, are known to occur on BLM land within the river corridor. Spanish Needle onion is known to occur only along this creek.

CULTURAL/HISTORIC: The area is ethnographically situated at an interface between the Tubatulabal and the Kawaiisu native groups. Although no significant prehistoric sites are known along the creek corridor, there are a couple of sites nearby that could be eligible for the National Register. This area is of particular interest to the public and educational groups due to the rock art values exhibited at these sites. No historic resources of significance are known along the corridor.

PHYSIOGRAPHY/GEOLOGY: The Creek flows through Mesozoic granitic rock.

LAND USE: Public lands adjoin the Sequoia National Forest. Surrounding private lands contain rural residences between two and one-half to 40 acres in size. Livestock grazing occurs on the surrounding private lands, with 4 miles of the creek falling into two BLM allotments. These allotments use spring surface water during March 1 - April 30 and January 1 to June 30. There are several mining claims near the river, a land use permit for an apiary site, and two BLM rights-of-way (CA 8763 for the Pacific Crest National Scenic Trail, and R4845 for a BLM road).

*SCENIC QUALITY: VRM Class II and III; Scenic Quality A

WATER QUALITY: Poor

ELIGIBILITY CONCLUSION: ELIGIBLE (due to scenic quality and combination of ecological-wildlife and floral values)

CLASSIFICATION: Recreational (lower stretches); Scenic (upper stretches)

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APPENDIX K

APPENDIX K – WILDERNESS CHARACTERISTICS INVENTORY
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K.1 INTRODUCTION

The Bureau of Land Management (BLM) Handbook 1601-1-Land Use Planning Handbook identifies broad-scale decisions that guide future land management actions and subsequent site specific implementation decisions. BLM Handbook 1610-1 - Appendix C - Part K - Wilderness Characteristics directs BLM field offices to identify decisions to protect or preserve wilderness characteristics (naturalness, outstanding opportunities for solitude, and outstanding opportunities for primitive and unconfined recreation).

Through the RMP planning revision, the Bakersfield FO must determine which portions of BLM lands with wilderness characteristics would be protected or preserved. This is achieved through the consideration of prescriptive management for the protection wilderness characteristics of these areas in one or more alternatives.

K.1.1 SCOPE

This inventory is intended to provide an assessment of whether wilderness characteristics are present on BLM lands within the Bakersfield FO, outside of designated Wilderness and Wilderness Study Areas (WSAs). The inventory process was developed to examine all Bakersfield FO lands, specifically (1) to review original wilderness inventories conducted by the BLM between 1978 and 1980 ensuring current and accurate information exists to analyze the environmental impacts of alternatives on BLM land with wilderness characteristics; (2) to study newly acquired lands not previously inventoried; and (3) to address proposals from the public to inventory and protect BLM lands with wilderness characteristics. This inventory does not present the decisions whether to protect/preserve or manage for an alternate use those lands identified as having wilderness characteristics. Those decisions are made and analyzed in the RMP/EIS and vary by alternative.

K.1.2 SPECIFIC DOCUMENTS AND DATA UTILIZED

The inventory used the following data sources and documents to assess whether wilderness characteristics were present along with field verification as appropriate:

- Bakersfield FO travel and transportation information;
- Bakersfield FO route inventories (GIS);
- Aerial photos (GIS);
- Digital ortho quads;
- Range improvements (GIS);
- Bakersfield FO range allotment management files;
- Oil and gas leases (GIS);
- BLM's LR2000 database for ROWs, mineral claims, oil and gas leasing; and
- Field investigations.

This inventory documents all known valid existing rights, grandfathered uses, and public land investments. However, due to timing and resource constraints; a full field examination of each area for human disturbances did not take place.

K.1.3 Authority and Guidance for Wilderness Characteristics Management

The BLM has authority under Sections 201 and 202 of FLPMA to inventory wilderness characteristics and to consider such information during land use planning. Through the land use planning process, as directed by Section 202 and 302 of FLPMA, the BLM will consider all available information to determine the mix of resource use and protection that best serves the multiple-use mandate in FLPMA.

K.1.4 Interdisciplinary Team Process

The Interdisciplinary Team of BLM resource specialists in the Bakersfield FO who participated in the completion of the Wilderness Characteristics Assessment are listed in Table K-1.

Table K-1
Bakersfield FO Interdisciplinary Team Members

Name	Resource
Lisa Ashley	Air, Soil, Water
Tammy Whitley	Archaeology
Susan Porter	Project Manager
Peter De Witt	Recreation, Comprehensive Trails and Travel Management, Special Designations
Karen Doran	Range
Denis Kearns	Botany
Steve Larson	Assistant Field Manager
Jeff Prude	Minerals
Chris Ryan	Fire
Larry Saslaw	Wildlife
Diane Simpson	Realty
Larry Vredenburgh	Geographic Information Systems (GIS)

K.2 Wilderness Characteristics Elements

The following elements were used to establish the presense of wilderness characteristics on public lands within the Decision Area. Namely: whether the area meets the size criteria, demonstrates naturalness and outstanding opportunities for solitude and primitive and unconfined types of recreation.

K.2.1 Size

Do the lands possess sufficient size to allow for management of wilderness characteristics?

Sufficient size is deemed to be roadless areas with over 5,000 acres of contiguous BLM lands, or if less than 5,000 acres they are contiguous with either:

- Designated Wilderness,
- BLM Wilderness Study Areas,
- BLM lands managed for wilderness characteristics,
- U.S. Fish and Wildlife Service area Proposed for Wilderness Designation,
- U.S. Forest Service Wilderness Study Areas or areas of Recommended Wilderness, and
- National Park Service area Recommended or Proposed for Designation.

Finally an area of less than 5,000 acres may qualify if its preservation and use is deemed practicable in an unimpaired condition.

K.2.2 Naturalness

Do the lands and resources exhibit a high degree of naturalness? Are the lands affected primarily by the forces of nature? Is the imprint of human activity substantially unnoticeable?

Naturalness is present within an area that has been affected primarily by the forces of nature with the imprint of human activity substantially unnoticeable. Some imprints of human activity may exist if they are substantially unnoticeable. More consideration is given to "apparent naturalness" rather than "natural integrity." Apparent naturalness refers to whether an area appears to be in a natural condition to the average visitor who is not familiar with the biological composition of natural ecosystems versus human-affected ecosystems in a given area. Major influences on apparent naturalness are structures, evidence of past significant vegetative disturbance, such as logging, and other obvious surface-disturbing activities. Natural integrity refers to the presence or absence of ecosystems that are relatively unaffected by human activity, such as the presence of native vegetative communities and absence of invasive species.

K.2.3 Outstanding Opportunities for Solitude and Primitive and Unconfined Types of Recreation

Do visitors have outstanding opportunities for solitude or primitive and unconfined types of recreation? Are the sights, sounds, and evidence of other people rare or infrequent? Can visitors feel isolated, alone, or secluded from others? Is the use of the area primarily through non-motorized or non-mechanical means, with no or minimal recreation facilities?

"Solitude" is defined as the state of being alone or remote from others; isolation; a lonely or secluded place. "Outstanding" is defined as standing out among others of its kind; conspicuous; prominent; superior to others of its kind; distinguished; excellent. Presence of this wilderness characteristic considers an individual's opportunity to avoid the sights, sounds, and evidence of other people in the area. Factors that affect opportunities for solitude are the size and configuration

of the unit; vegetative and topographic screening; ability of visitors to find a secluded spot, even when others are present in the area. It does not consider the sights and sounds of human activity outside of the unit's boundaries, unless they are so extremely imposing that they cannot be ignored.

Primitive and unconfined recreation includes activities that provide dispersed undeveloped recreation and do not require facilities or motorized equipment. Some examples are hiking, backpacking, fishing, hunting, caving, horseback riding, rock climbing, river running, cross-country skiing, and bird watching. An area may possess outstanding opportunities for a primitive and unconfined type of recreation, either through the diversity in the number of primitive and unconfined recreation possible or the outstanding quality of one opportunity.

K.3 Review of Past Wilderness Inventories

The BLM reviewed published wilderness inventory reports and maps that were prepared as a result of the original inventories conducted between 1978 and 1980, under Section 603 of FLPMA (Table K-2). This review enabled the BLM to consider any new information that was not considered as part of the original inventories.

Table K-2
Lands Previously Studied for Wilderness Characteristics

Inventory Number[1]	Property Name	Acreage
CA-010-002 / CAC060-002	Hopper Mountain	783
CA-010-007 / CAC060-007	Tepusquet Peak	1,024
CA-010-016 / CAC060-016	Sespe-Frazier	243
CA-010-017 / CAC060-017	Orchard Peak	1,840
CA-010-028 / CAC060-028	Bear Mountain[2]	2,226
CA-010-035 / CAC060-035	Temblor Range	~15,000
CA-010-036 / CAC060-036	Spoor Canyon / Public Proposal I	240
CA-010-037 / CAC060-037	Cuyama / Public Proposal II & III	1,014
CA-010-040 / CAC060-040	Freeborn/Hubbard	7,192
CA-010-052 / CAC060-052	Walker Basin/Caliente Creek	360

These previous inventories determined that the areas listed above were not suitable for management of wilderness characteristics and consequently not identified as WSAs. Although public perceptions of wilderness values and characteristics have changed over the past thirty years in that remote areas with some development would be considered as still possessing wilderness characteristics, the characteristics of these areas have not changed and the level of or potential for development still exceeds threshold for naturalness.

The substantial population growth of southern and central California, oil and gas development, and increase in demand for non-primitive recreation experiences has further diluted the potential for

[1] Old / New inventory numbers (updated to match current numbering systems)
[2] 13,134 acres of the original study area designated as the Chimney Peak Wilderness area in 1994.

wilderness characteristics management within these areas. The exception being Bear Mountain, of which a large portion was designated as the Chimney Peak Wilderness area in 1994; the remaining area (2,230 acres) was excluded from the Wilderness designation due to the presence of roads and remnants of mining operations.

K.4 Review of Acquired Lands

Since the last round of wilderness characteristic inventories concluded in the early 1980s, the BLM's land ownership pattern has not changed drastically. Lands have been acquired through purchase, exchange, and donation that may or may not have wilderness characteristics. In some cases, lands have been specifically acquired for their wilderness characteristics and are managed either within designated Wilderness or on the boundaries of designated Wilderness. The following table (Table K-3) identifies the most prominent acquisitions that have been considered within this inventory.

Table K-3
Acquisitions Reviewed

Property Name	Acreage
Big Pine Meadow	645
Lamont Meadow	219
Vig Parcel	301
Chappell, J Parcel	317
Allen Parcel	120
Ortega Parcel	40
Big Foot Spring	116
Chappell, D Parcel	119
Roszewska Ranch	419
Craig Ranch	967
Compensation Lands	283
Piedras Blancas Light Station	20
Atwell Island	7,936
Patterson Bend	2,368
Cyrus Canyon Donation	1,501
NPR II	10,777

K.5 Review of Public Wilderness Proposals

During the scoping phase for the Bakersfield RMP revision comments were received with regard to Wilderness, WSAs, and lands with wilderness characteristics. These comments came from both individuals and groups, including The Wilderness Society, Los Padres Forest Watch, Defenders of Wildlife, California Wilderness Coalition, Sierra Club California/Nevada Desert Committee, Center for Biological Diversity, Californians for Western Wilderness, and Sequoia Forest Keepers. The following (Table K-4) is a summary of the areas presented in public comments as possessing wilderness characteristics or worthy of closer investigation.

Table K-4
Public Proposals Reviewed

Proposal	Identifier	Acreage	Notes
I	T9N, R27W, Sec. 2	239	Adjacent to USFS Fox Mountain Inventoried Roadless Area and Senator Boxer-proposed San Rafael Wilderness Addition. Drill hole and access road to be excluded.
II	T9N, R25W, Sec. 16 & 22	254	Adjacent to USFS Fox Mountain Inventoried Roadless Area and Senator Boxer-proposed San Rafael Wilderness Addition. Excluding minor road encroachments.
III	T9N, R25W, Sec. 14, 22, 23 & 24	744	Adjacent to USFS Cuyama Inventoried Roadless Area. Excluding a road that crosses the corner of one area.
IV	T10N, R23W, Sec. 26, 34 & 35	471	Adjacent to USFS Antimony Inventoried Roadless Area and Senator Boxer-proposed Chumash Wilderness Addition. Contains bulldozer line from fire suppression activities.
V	Bright Star Additions	8,846	Senator Boxer-proposed Bright Star Additions.

Three of these public proposals coincide with the existing wilderness characteristics inventory as identified in Section 14.3 above.

K.6 AREAS ELIMINATED FROM FURTHER CONSIDERATION

The following areas were eliminated from further consideration and assessment in this inventory as they lacked one or more of the elements of wilderness characteristics. With the exception of the public proposals, none of these areas is considered in the RMP for management to protect wilderness characteristics.

Atwell Island: —Includes various parcels of active and abandoned farmlands; as such, the influence and evidence of human activity is present throughout the area (i.e., lack naturalness).

Compensation Lands: —These are various parcels of land acquired through the compensation process for disturbance occurring throughout oil and gas fields. Each of the areas is small, isolated, and generally surrounded by private property (i.e., does not possess sufficient size).

Craig Ranch: —Located within the Case Mountain ACEC, the area continues to be grazed. Many routes, including motorized and mechanized primitive roads and trails cross the area; as such, the evidence of human activity is inescapable (i.e., lacks naturalness).

Freeborn/Hubbard CA-010-040: - The area, although of substantial size, is not roadless in nature and the evidence of human activities is inescapable (i.e., lacks naturalness).

Hopper Mountain CA-010-002: - As an active oil and gas field, the area is currently under lease and being developed, and the evidence and influence of human activity is inescapable (i.e., lacks naturalness).

National Petroleum Reserve II (NPR2): —As an active oil and gas field, the area is widely developed, and the evidence and influence of human activity are inescapable (i.e., lacks naturalness).

Parcels Already within Boundary of Designated Wilderness Areas: —The following areas were not evaluated as the entire area is within a congressionally designated Wilderness area: Vig Parcel, Chappell J. Parcel, Allen Parcel, Ortega Parcel, and Big Foot Spring.

Piedras Blancas Light Station: —The light station is a 19-acre parcel on the central California coastline. The area does not meet the minimum size requirements, and the evidence and influence of human activity is widespread, both on the property and adjacent lands.

Public Wilderness Proposals I, II & III: —The lands identified by the public in PWP I, II, and III were previously inventoried for wilderness characteristics in the Final Intensive Inventory of Public Lands Administered by BLM California outside the California Desert Conservation Area, December 1979. Within this intensive inventory, these lands were considered as the Cuyama unit and Spoor Canyon Unit, identified as CA-010-037 and CA-010-036. The parcels identified by the public mimic the Cuyama and Spoor Canyon units, which was described as "small parcels of public land located west of Ventucopa and bordering the eastern edge of the Cuyama and Fox Mountain RARE II Areas." The lands indentified consist primarily of low rounded hills, although portions of the sandy Cuyama River bed are included. Vegetation consists mostly of coastal chaparral on the hillsides and is relatively nonexistent in the riverbed. The original acreage inventoried included 1,014 acres, 974 acres of which was eliminated from the inventory unit due to unnatural features, i.e., impacts by man that have degraded the natural character, including several primitive routes, an abandoned trailer, and an improved road. The terrain variety provides some screening from man's work, making a telephone line almost unnoticeable. The restrictive size of the lands when considered in isolation provides little opportunity for solitude and primitive unconfined recreation. When considered with the USFS Inventoried Roadless Areas (IRAs) and proposed Wilderness, its ability to provide such opportunities is increased; however, this must be weighed against other resource values, including mineral resource potential and ability to provide access to mineral resources within the USFS boundary, where major constraints to the industry may be in place. The finding of the Final Intensive Inventory was that the Cuyama and Spoor units did not possess wilderness characteristics and was unsuitable to remain as a WSA. Even with additional information, the potential for an evolution in adjacent management to designated federal Wilderness, this finding is unchanged.

In order to fully analyze the areas proposed by the public, these areas are considered for management to promote wilderness characteristics (although not present) in at least one alternative of the RMP.

Sespe-Frazier CA-010-016: —The area is no longer in federal ownership.

Temblor Range CA-010-035: —The area, although of sufficient size, is traversed by many roads and trails as a result of the active grazing operations and recreational use of the area (i.e., lacks naturalness).

Tepusquet Peak CA-010-007: —Although sizable (over 1,000 acres) the area is not large enough to meet the size criteria (i.e., does not possess sufficient size) and its proximity to a developed residential community (to the west) would make management for nonimpairment difficult.

Walker Basin/Caliente Creek CA-010-052: —The area is not of sufficient size, even when consideration is given to adjacent lands as to allow for management in a nonimpaired condition.

K.7 WILDERNESS CHARACTERISTICS ASSESSMENT

The following areas were assessed in this inventory for the elements of wilderness characteristics. In addition to the public proposals above, all of these areas are considered in the RMP for management to protect wilderness characteristics.

K.7.1 BIG PINE MEADOW

Big Pine Meadow is between the congressionally designated Sacatar and Domelands Wilderness areas, approximately three miles from the community of Kennedy Meadows in Tulare County. The area is approximately 645 acres that border on approximately 57,000 acres of Wilderness area.

Landscape Characteristics and Issues

This area is composed of the rugged eastern face of the Sierra Nevada. Topography ranges from valley, canyons, and alluvial fans to steep hills that lead into granite peaks, and ridgetops reaching elevations of more than 7,800 feet. Vegetation is extremely diversified, with creosote bush, desert shrubs, and Joshua trees on the lower slopes and cacti and scattered pinyon-juniper woodlands on the upper slopes. Several of the canyons are complemented by springs with their riparian habitats of cottonwoods, willows, and grasses. Wildlife within the area includes mule deer, golden eagle, prairie falcon, quail, and dove.

One route bisects the area, Kennedy Meadows Road, providing one of the main access points to the local community from the east.

Wilderness Characteristics Assessment: *Does the area contain wilderness characteristics (naturalness, outstanding opportunities for solitude and primitive and unconfined types of recreation)?*

Yes, the area contains wilderness characteristics, with the exception of the one route crossing the area, which could be removed from wilderness characteristics management. When considered with its contiguous existing wilderness areas, its natural appearance provides opportunities for solitude and unconfined primitive types of recreation.

K.7.2 BEAR MOUNTAIN

The Bear Mountain unit, previously studied (CA-010-028) was largely designated as the Chimney Peak Wilderness by the California Desert Protection Act of 1994. The remaining are was excluded

from the Wilderness designation due to the presence of roads and remnants of historic mining activity.

Landscape Characteristics and Issues

The landscape is a rugged and mountainous desert environment where valleys, canyons, alluvial fans, and steep hills lead into rugged granite mountains. The area comprises the transitional zone between the Mojave Desert to the east and the Sierra Nevada. In winter the area is often blanketed in snow, however the snowfall is usually short-lived and spring arrives earlier than in the high Sierra. Summer-time temperatures fluctuate around the 90's cooling off during the night. Terrain and altitude changes within the wilderness can create abrupt changes in climatic conditions over short distances.

Vegetation throughout the area is diverse. The three major floristic provinces occur, the California, Great Basin, and Desert floristic provinces. Three of the subregions identified in the Jepson Manual are represented also: the Southern Sierra Nevada foothills, the Southern High Sierra Nevada, and the Mojave Desert. The desert species, such as Joshua tree (Yucca brevifolia) and creosote brush (Larrea tridentata) occupy the lower elevations, while higher elevations are colonized by pinyon pines. Meadows of sagebrush (Artemisia tridentata) are scattered throughout with the occasional occurrence of juniper. A wildfire in 2000; the Manter Burn, stripped the northwestern portion of the area of its mature trees.

Wildlife within the area is equally as varied as its vegetation with a wide variety of bird and small mammal species and known occurrences of large carnivores, including; black bear, mountain lion, coyote and bobcat, and important game species, such as, mule deer, mountain quail and California quail. The area contains important wildlife habitat, including cliff-top nesting sites and small pockets of riparian area.

Recreationally the area offers excellent opportunities for primitive unconfined recreation and experiences of solitude and isolation, mostly due to its location, terrain and proximity to wilderness areas. Approximately 4 miles of the Pacific Crest National Scenic Trail (PCNST) cross through the area providing access opportunities for hikers or equestrian users.

Wilderness Characteristics Assessment: *Does the area contain wilderness characteristics (naturalness, outstanding opportunities for solitude and primitive and unconfined types of recreation)?*

Yes, the area contains wilderness characteristics although evidence of human activity is present within the area; it is minimal and does not impact the perception of naturalness and opportunities of solitude, (many of the routes that previously excluded this area from wilderness management have become naturally overgrown and restored). A portion of the area contains the remaining access routes to, a BLM Radio Repeater and several rangeland improvements, this area should be excluded from future restrictive wilderness characteristics management.

K.7.3 CHAPPELL D, PARCEL

Located on the southern boundary of the Owens Peak wilderness, a portion of the acquisition was within the Wilderness boundary.

Landscape Characteristics and Issues

This area is composed of the rugged eastern face of the Sierra Nevada. Nearby Owens Peak, the high point of the southern Sierra Nevada, rises more than 8,400 feet. The mountainous terrain has deep, winding, open, and expansive canyons, many of which contain springs with extensive riparian vegetation. This area is a transition zone between the Great Basin, Mojave Desert, and Sierra Nevada ecoregions. Vegetation varies considerably with a creosote desert scrub community on the bajadas, scattered yuccas, cacti, annuals, cottonwood, and oak trees in the canyons and valleys, and a juniper-pinyon woodland with sagebrush and digger/gray pine on the upper elevations. Wildlife includes mule deer, golden eagle, and prairie falcon. Evidence of occupation by prehistoric peoples has been found throughout the area.

Wilderness Characteristics Assessment: *Does the area contain wilderness characteristics (naturalness, outstanding opportunities for solitude and primitive and unconfined types of recreation)?*

Yes, the area contains wilderness characteristics when considered along with the adjacent Owens Peak Wilderness Area. The area has maintained its naturalness and the evidence and influence of humans is negligible. When considered with the Owens Peak Wilderness area, Lamont Meadow provides outstanding opportunities for solitude, isolation, and unconfined primitive recreation types.

K.7.4 CYRUS CANYON AUDUBON DONATION

The Cyrus Canyon acquisition consists of 1,501 acres donated by the Audubon Society in 2008. The unit is next to the USFS Sequoia National Forest on the north and a mixture of private property and public lands on the south, east, and west. The area is approximately five miles from the community of Kernville.

Landscape Characteristics and Issues

The area is mostly hilly or mountainous, with some extremely rugged portions. Vegetation can be characterized as an open juniper and gray pine woodland. On the lower elevations, juniper dominates, with big sagebrush, ephedra, interior goldenbush, and cheeseweed. The flat areas between the trees and shrubs support a variety of native annual species, including lupine, lotus, and monkeyflower, along with the usual assortment of introduced Mediterranean forbs and grasses. Gray pines occur at the higher elevations and along the drainages. Other species include yucca, ceanothus, and California buckwheat. Cottonwoods and other riparian species occur along portions of Cyrus Canyon and at Andress Spring.

The area provides habitat for a variety of wildlife. Mammals include mule deer, coyote, black bear, mountain lion, bobcat, California ground squirrel, black-tailed hare, desert cottontail, woodrat, Pacific kangaroo rat, deer mouse, and pocket gopher. Rocks, boulders, trees, and mines provide

habitat for pallid bat, Townsend's big-eared bat, Yuma myotis, fringed-myotis, and western pipistrelle. Typical bird species include California quail, mourning dove, roadrunner, canyon wren, California thrasher, common raven, and lark sparrow. Reptiles include western fence lizard, side-blotched lizard, western whiptail, coast horned lizard, common kingsnake, and western rattlesnake.

The area is grazed, and there are some routes associated with this use. The donation was accepted with conditions attached for future management. These conditions support management for wilderness characteristics because they eliminate motorized uses and urge more primitive types of recreation.

Wilderness Characteristics Assessment: *Does the area contain wilderness characteristics (naturalness, outstanding opportunities for solitude and primitive and unconfined types of recreation)?*

Yes, the area contains wilderness characteristics. Although the mix of private and public lands adjacent are neither roadless nor possess outstanding opportunities for solitude and unconfined recreation, the area, when considered with the adjacent portions of the USFS-managed Sequoia National Forest, does meet the size requirements. Together these areas are considered to provide opportunities for solitude and primitive recreation types.

K.7.5 Edgar Ranch West

The Edgar Ranch West parcel is newly acquired lands donated by the Wilderness Lands Trust for management and inclusion in existing Wilderness. The donation included portions eligible under Section 6 of the Wilderness Act for inclusion in the Sacatar Trail Wilderness. The remaining portions in Tulare Country not eligible for inclusion are considered for the purpose of wilderness characteristics assessment "Edgar Ranch West".

Landscape Characteristics and Issues

Topography ranges from valley, canyons, and alluvial fans to steep hills that lead into granite peaks and ridgetops, reaching elevations of more than 7,800 feet. Vegetation is extremely diversified, with creosote bush, desert shrubs, and Joshua trees on the lower slopes and cacti and scattered pinyon-juniper woodlands on the upper slopes. Several of the canyons are complemented by springs, with their riparian habitats of cottonwoods, willows, and grasses. Wildlife within the area includes mule deer, golden eagle, prairie falcon, quail, and dove.

Historic use of the area as a ranch resulted in extensive fencing and route creation. Although the fencing continues to be maintained for grazing operations, most routes have naturally restored themselves since acquisition by the BLM.

Wilderness Characteristics Assessment: *Does the area contain wilderness characteristics (naturalness, outstanding opportunities for solitude and primitive and unconfined types of recreation)?*

Yes, the area contains wilderness characteristics, when consideration is given with the adjacent property added to the Sacatar Trail Wilderness area. Although evidence of human activity is present

within the area, it is minimal and does not impact the perception of naturalness and opportunities of solitude.

K.7.6 LAMONT MEADOW

The Lamont Meadow parcel is next to the Owens Peak Wilderness Area, approximately 14 miles from the community of Kennedy Meadows in Tulare County. Approximately 219 acres is borders on approximately 26,000 acres of congressional designated Wilderness area.

Landscape Characteristics and Issues

This area is composed of the rugged eastern face of the Sierra Nevada. Nearby Owens Peak, the high point of the southern Sierra Nevada, rises more than 8,400 feet. The mountainous terrain has deep, winding, open, and expansive canyons, many of which contain springs with extensive riparian vegetation. This area is a transition zone between the Great Basin, Mojave Desert, and Sierra Nevada ecoregions. Vegetation varies considerably with a creosote desert scrub community on the bajadas, scattered yuccas, cacti, annuals, cottonwood, and oak trees in the canyons and valleys, and a juniper-pinyon woodland with sagebrush and digger/gray pine on the upper elevations. Wildlife includes mule deer, golden eagle, and prairie falcon. Evidence of occupation by prehistoric peoples has been found throughout the area.

Wilderness Characteristics Assessment: *Does the area contain wilderness characteristics (naturalness, outstanding opportunities for solitude and primitive and unconfined types of recreation)?*

Yes, the area contains wilderness characteristics when considered along with the adjacent Owens Peak Wilderness Area. The area has maintained its naturalness and the evidence and influence of humans is negligible. When considered with the Owens Peak Wilderness area, Lamont Meadow provides outstanding opportunities for solitude, isolation, and unconfined primitive recreation types.

K.7.7 PATTERSON BEND

The Patterson Bend area, acquired as a number of purchases in 2005 for the purpose of completing the San Joaquin River Trail, straddles the San Joaquin River and has generally been managed since its acquisition as part of the San Joaquin River Gorge Special Recreation Management Area.

Landscape Characteristics and Issues

This area is composed of the western foothills of the Sierra Nevada. Rolling hills lead to the steep sides of the San Joaquin River Gorge.

Vegetation of the area is dominated by blue oak and grey pine with a non-native annual grass and herb understory. Other woody plants include interior live oak, scrub oak, California buckeye, California lilac, manzanita, yerba santa, mountain mahogany and poison oak. Elderberry occurs in the general area, but is not located within the project area.

Wildlife includes: California newt, California slender salamander, western spadefoot toad, Pacific tree frog, western fence lizard, California side-blotched lizard, Gilbert's skink, striped racer, common kingsnake, pacific gopher snake, pacific rattlesnake, California quail, band-tailed pigeon, mourning dove, turkey vulture, screech owl, red-tailed hawk, sharp-shinned hawk, Cooper's hawk, American kestral, red-shafted flicker, acorn woodpecker, Nuttal's woodpecker, downy woodpecker, cowbird, Brewer's black bird, brown towhee, California thrasher, American robin, scrub jay, mockingbird, northern oriole, white-crowned sparrow, violet green swallow, dark-eyed junco, yellow-rumped warbler, Bewick's wren, Anna's hummingbird, common bushtit, plain titmouse, raccoon, badger, gray fox, coyote, bobcat, California ground squirrel, western gray squirrel, California vole, Botta pocket gopher, black-tailed jackrabbit, Audubon cottontail and mule deer. Bats, such as the pallid bat, are suspected to use the area.

The federally endangered valley elderberry longhorn beetle is known to occur along the San Joaquin River. This species is completely dependent on its host plant, elderberry. As there are no elderberry plants in the immediate project area, this species is not expected to occur in the immediate project area.

Wilderness Characteristics Assessment: *Does the area contain wilderness characteristics (naturalness, outstanding opportunities for solitude and primitive and unconfined types of recreation)?*

Yes, the area contains wilderness characteristics, although alone the area does not meet the size requirement, it is adjacent/within the San Joaquin River Gorge which is managed for mostly primitive recreation types. In addition the location and access difficulties may allow for some of the area to be managed for nonimpairment.

K.7.8 PUBLIC PROPOSAL IV

Located in Kern County, the area is an isolated parcel of public land next to the US Forest Service, Los Padres National Forest.

Landscape Characteristics and Issues

The area consists of piñon-juniper woodlands and grasslands in the northeastern corner of Los Padres National Forest near Frazier Park. San Emigdio Peak (elevation 7,495 feet) is the dominant landform, and the area looks out over the San Andreas Fault and the adjacent Wind Wolves Preserve. The area is within the historic range of the California condor, tule elk, and pronghorn, all of which have been reintroduced nearby.

The area is next to USFS Antimony Inventoried Roadless Area and part of Senator Boxer's proposed Chumash Wilderness Addition. A review of recent aerial photographs shows some bulldozer lines from fire suppression activities. Antimony is popular with hikers and bicyclists alike.

Wilderness Characteristics Assessment: *Does the area contain wilderness characteristics (naturalness, outstanding opportunities for solitude and primitive and unconfined types of recreation)?*

No, the area is not deemed to contain wilderness characteristics. Although the area meets the size requirement when considered with the adjacent US Forest Service lands, the area itself has seen some disturbance reducing its qualities of naturalness and opportunities to escape the influence of human activity.

K.7.9 PUBLIC PROPOSAL V

This proposed area contained four parcels in Kern County near Lake Isabella. All the parcels are next to the Piute area of the Sequoia National Forest, managed by the US Forest Service.

Landscape Characteristics and Issues

Elevations in the area range from 4,500 to 8,500 feet, and the area topography is characterized by steep slopes and cliffs, moderate slopes, and subdued topography with gentle basins. Soils in the area are predominately granitic in origin, with fine sandy loam and loamy textures. The Piute Mountains have Eastside Sierra forest types. Major tree species include Jeffrey pine, white fir, black oak, singleleaf pinyon pine, and western juniper. Less common, or restricted to local areas, are gray pine, sugar pine, live oak, and blue oak.

Portions of the proposed area contain extensive motorized trail systems, which are a combination of previous authorized and designated routes and newly created routes (since 1997 when the Caliente RMP was signed).

The area is next to an Inventoried Roadless Area within the National Forest that allows road construction and reconstruction. A portion of the proposed area is within the Piute Cypress ISA ACEC.

Wilderness Characteristics Assessment: *Does the area contain wilderness characteristics (naturalness, outstanding opportunities for solitude and primitive and unconfined types of recreation)?*

Yes, portions of the proposed area do contain wilderness characteristics when considered with the adjacent Inventoried Roadless Area within the National Forest. However, the extensive route system on the BLM portions of the land eliminates approximately a third of the area because naturalness and opportunities for solitude and unconfined primitive recreation types are impeded.

K.7.10 ROSZEWEKA RANCH

The Roszeweka Ranch is almost surrounded by the Scatar Trail Wilderness area, located within two miles of the community of Kennedy Meadows in Tulare County. The area, approximately 419 acres, borders on approximately 16,500 acres of congressionally designated Wilderness area.

Landscape Characteristics and Issues

Topography ranges from valley, canyons, and alluvial fans to steep hills that lead into granite peaks and ridgetops, reaching elevations of more than 7,800 feet. Vegetation is extremely diversified, with creosote bush, desert shrubs, and Joshua trees on the lower slopes and cacti and scattered pinyon-

juniper woodlands on the upper slopes. Several of the canyons are complemented by springs, with their riparian habitats of cottonwoods, willows, and grasses. Wildlife within the area includes mule deer, golden eagle, prairie falcon, quail, and dove.

Historic use of the area as a ranch resulted in extensive fencing and route creation. Although the fencing continues to be maintained for grazing operations, most routes have naturally restored themselves since acquisition by the BLM.

Wilderness Characteristics Assessment: *Does the area contain wilderness characteristics (naturalness, outstanding opportunities for solitude and primitive and unconfined types of recreation)?*

Yes, the area contains wilderness characteristics, when consideration is given with the adjacent Sacatar Trail Wilderness area. Although evidence of human activity is present within the area, it is minimal and does not impact the perception of naturalness and opportunities of solitude.

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APPENDIX L

APPENDIX L – BEST MANAGEMENT PRACTICES/STANDARD OPERATING PROCEDURES
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L.1 INTRODUCTION

This appendix presents a sampling of best management practices (BMPs), standard operating procedures (SOPs), and other measures for minimizing environmental effects of various authorized activities on public lands. The authorized officer is not limited to the following, nor is there any commitment to use this specific wording presented here. BMPs are dynamic, evolving through new understanding and developments in science and technology. They are selected and implemented as necessary, based on site-specific conditions, to meet resource objectives for specific management actions. New information and improving technologies will undoubtedly lead to the development of new or revised measures over time. New measures may be developed to address unforeseen impacts, as long as they comply with existing laws, polices, rights of the applicant, and this RMP.

L.2 AIR QUALITY

L.2.1 ROADS

- Vehicle speed limits may be applied to reduce fugitive dust emissions from road use.
- Watering, graveling, paving, or the application of surfactant may be used to reduce fugitive dust from road use.

L.2.2 OIL AND GAS PRODUCTION

Air Quality BMPs reduce emissions of hazardous air pollutants (HAPs), criteria pollutants (PM_{10}, $PM_{2.5}$, carbon monoxide, sulfur dioxide, ozone, nitrogen oxides), volatile organic compounds (VOCs), which contribute to ozone formation, and green house gases (GHGs). Combustion results in emissions of criteria pollutants, VOCs, GHGs, and HAPs, which come from vehicle tailpipe emissions, dehydrators, mobile and stationary engines, and flaring. Fugitive emissions of criteria pollutants, VOCs, GHGs, and HAPs are the result of equipment leaks, evaporation ponds and pits, condensate tanks, storage tanks, windblown dust (from vehicles and construction). Dehydrator vents result in emissions of GHG, VOCs, and HAPs.

- Projects and activities on BLM lands shall meet Federal, State, Regional Air Quality Control Boards, and other local emissions standards for air quality.
- Directionally drill multiple wells from a single pad, which results in minimizing roads, travel, dust, and vehicle emissions.
- Planned road systems result in less surface disturbance and save in construction and maintenance costs; fewer planned roads result in less area free of vegetation, which contributes to fugitive dust emissions.
- Apply water along roads, during trenching and earth-moving construction activities.
- Install vapor recovery units to reduce VOC emissions, which contribute to ozone formation.
- Reduce emissions from leaking gas on reciprocating compressor rod packing systems by replacing compressor packing rods at frequent intervals.

- Use solar power at tank setting or facility locations to reduce the number of vehicle trips and methane emissions from the use of pneumatic pumps.
- Replace high-bleed devices with low-bleed devices or retrofit bleed reduction kits on high-bleed devices. This reduces methane and VOCs from pneumatic devices (liquid level controllers, pressure regulators, and valve controllers).
- Use "green completions" to recover product, while reducing methane and VOC emissions that would otherwise result from venting or flaring during well completions.
- Vanpool to reduce the number of vehicles and associated combustion emissions.
- Use enclosed tanks instead of open pits to reduce fugitive VOC emissions.
- Use vapor recovery units on oil, condensate, and produced water storage tanks to reduce fugitive VOCs and recover BTU-rich vapors for sale or use on-site.
- Consider a BLM-approved dust suppressant to control fugitive dust emissions.
- Use cleaner diesel engine power (shift from Tier 1 to Tier 4) as manufacturers phase in newer engines between 2011 and 2014.
- To reduce NOx, SOx, CO, and CO_2, use controls for compressor engines, including closed loop engine control, controlled engines, selective catalytic reduction, system-installed power supply (solar or battery powered), and ultra-low sulfur diesel.
- Complete interim reclamation (post-drilling) and final reclamation of well sites and roadways during abandonment; recontour and revegetate unused or unnecessary areas to reduce fugitive dust emissions from bare or eroded soils and combustion emissions from vehicle travel.
- Reduce emissions that result from glycol over-circulation in glycol dehydrators by optimizing the circulation rate.
- Reduce GHG emissions (CH_4) by installing and using a flash tank separator to capture and recycle methane that flashes from rich glycol in an energy exchange pump.
- Reduce centrifugal wet seal compressor emissions from the seal oil degassing vent by replacing of wet seals with dry seals, which emit less methane and have lower power requirements.
- Install plunger lifts and smart automation systems, which monitor well production parameters to reduce methane emissions from well blowdowns.
- Reduce fugitive gas leaks by implementing a Directed Inspection and Maintenance program, which identifies and cost effectively fixes fugitive gas leaks using leak detection (infrared camera, organic vapor analyzer, soap solution, ultrasonic leak detectors) and measurement (calibrated bagging, rotameters, high volume samplers).

L.2.3 Prescribed Burning

Burn on permissive burn days and coordinate closely with applicable air pollution control district(s) to obtain necessary permits and authorizations prior to ignition.

Burn when weather conditions will provide good dispersion of emissions; utilize ignition techniques to encourage clean burns to reduce the amount of smoldering.

Utilize alternatives to burning, such as chipping or masticating, where applicable, to reduce smoke emissions.

Construct slash or brush piles using the following techniques to encourage a cleaner, hotter, and shorter burn that will minimize overall smoke production:

- Pile vegetation loosely to facilitate air movement between fuel pieces;
- Cover a portion of the pile to provide a dry ignition point following rain events;
- Minimize the amount of dirt in the pile;
- Ensure fuels are sufficiently dried; and
- Use proper lighting techniques when igniting the pile to encourage a clean burn.

Where possible, split larger burn units into several smaller blocks to have more control over the amount of area burned in one operational period to better control smoke production on marginal burn days.

L.2.4 Additional Information on BMPs for Air Quality

- BLM Washington Office BMP Web site: http://www.blm.gov/bmp
- EPA Natural Gas STAR Program: http://www.epa.gov/gasstar/tools/recommended.html
- California Air Resources Board Clearinghouse: http://www.arb.ca.gov/cc/non-co2-clearinghouse/non-co2-clearinghouse.htm
- Four Corners Air Quality Group: http://www.nmev.state.nm.us.aqb/4C/
- Intermountain BMP Web Site/Database: http://www.oilandgasbmps.org
- Fugitive Dust Control: http://www.arb.ca.gov/cap/handbooks/fugitivedust_large.pdf
- Forest Management Burning Handbook: http://www.arb.ca.gov/cap/handbooks/forestmngtburnlg.pdf
- Oil Field Production Handbook: http://www.arb.ca.gov/cap/handbooks/oilfieldproductionlarge.pdf
- Naturally Occurring Asbestos Control: http://www.arb.ca.gov/cap/handbooks/asbestosnoafinal.pdf

L.3 Biological Resources

The following measures are SOPs typically applied to BLM undertakings or authorizations that are implemented to avoid or minimize impacts on biological resources. Some of these procedures are identified to ensure compliance with BLM authorization terms and conditions. Many of these measures have been implemented across the BLM as BMPs or have been developed as mitigation measures resulting from site-specific environmental analyses. Mitigation measures often become

design features in subsequent proposed actions to avoid impacts and to implement environmentally compatible projects, and thus they become SOPs.

Many measures to protect threatened and endangered and sensitive species have been developed as a result of formal consultations between the BLM and USFWS on a variety of BLM actions. The CDFG also has required many measures for projects complying with CESA, CEQA, and the Fully Protected Species Act. Once protection measures are identified in federal biological opinions or in CDFG permits, they generally become SOPs to obtain subsequent USFWS and CDFG permits. As additional measures are developed to minimize the adverse effects from future management activities, they are likely to become required actions in order to comply with ESA and CESA and thus would become additional SOPs.

L.3.1 General

- No construction or surface disturbing activities shall occur without prior written authorization of the authorized BLM officer.
- Surface disturbance will be minimized. Project applicants will be encouraged to utilize previously disturbed sites when feasible.
- Authorizations for new surface-disturbing activities will place priority on avoiding impacts to biological, cultural, and paleontological resources. Avoidance will employ measures such as relocation of project sites, modifying construction techniques, and altering project timing.
- Civil engineering studies or geotechnical studies may be required to determine feasibility prior to road or other construction. Construction in areas of extremely unstable bedrock formations and active landslides will not be permitted or would require special design criteria.
- Delineate work area boundaries with flagging, temporary fencing, or other marking to minimize surface disturbance or impacts on sensitive biological, cultural, or other important resources.
- When necessary to protect sensitive biological, cultural, or other important resources, monitoring by BLM approved biologists and archaeologists shall be required during construction activities.

L.3.2 Rehabilitation/ Restoration

- Disturbed sites will be restored to natural conditions using site-appropriate measures and timelines developed in consultation/coordination with BLM biologists. Restoration plans and requirements will be developed on a case-by-case basis and include post-project monitoring.
- All unnecessary roads, vehicle paths, and other disturbed areas will be restored to natural conditions.
- Match local genotypes, as close as practical, when choosing seeds and other materials for habitat restoration.

- Adjust grazing prescriptions or eliminate grazing following restoration if necessary to protect populations of vulnerable species and facilitate establishment of newly planted sites.

L.3.3 BIOLOGICAL RESOURCE PROTECTION

- No destruction, cutting, or clearing of trees or other vegetation shall occur without prior written approval from the authorized BLM officer. Firewood cutting will not be permitted on Bakersfield Field Office lands. Small amounts of dead and down wood, less than four inches in diameter, may be collected for on-site campfires, except where restricted. Down and dead wood greater than four inches in diameter and standing dead trees may not be collected for campfire use.
- Biological surveys will be required prior to any disturbance, unless given project- specific, written clearance from BLM officers.
- Surveys will be conducted at the appropriate time of year to detect sensitive species and important biological resources.
- Surveys will comply with current BLM, USFWS, and CDFG protocols.
- If it has been longer than 30 days between the last biological survey and the proposed start of construction, BLM biologists may require additional surveys for sensitive species.
- All biological survey data and reports will be sent from the biologist conducting the survey directly to the BLM biology staff. All survey biologists are required to have an updated CV on file in the Bakersfield Field Office. Prior to undertaking a survey, BLM will certify that survey biologists have appropriate training, experience, and permits.
- Exploration, construction, and development activities may have seasonal restrictions imposed within a half- mile radius around raptor nest sites. Seasonal restrictions would allow for undisturbed courtship, nest building, incubation and fledging. This seasonal restriction could last as long as six months, depending upon species. Restrictions could be imposed around high-use areas during other seasons.
- Facilities and structures such as power lines, wind towers and turbines, solar arrays, and communication facilities will conform to BLM-, USFWS- and CDFG-approved wildlife protection guidelines. Such guidelines include, flight diverters, night ambient lighting, tower beacon lights, wind tower design and voidance measures, raptor protections for power poles, perimeter fencing, and vegetation management.
- Trenches and holes shall be provided with animal escape ramps and not be open longer than one week.
- Pipe ends three inches or greater will be covered.
- Power lines will be constructed to meet raptor protection protocols. Existing power lines will be modified to meet raptor protection protocols where electrocutions occur.
- All troughs shall have an escape ramp. Ensure that troughs allow wildlife access to water and that they are in good repair and function properly.
- Claim stakes made of pipe shall be two inches or less in diameter.

- Avoid soil-disturbing activities during periods of runoff or when soils are wet and muddy, in order to minimize damage.

L.3.4 WETLAND-RIPARIAN HABITATS

- Wetlands and riparian areas affected by livestock would be fenced or otherwise protected. Water diversions would divert the minimum volume necessary to maintain livestock or wildlife surface water. Float valves or other devices would be installed to control diversion. To protect riparian areas, water withdrawn for livestock would be piped as far as necessary or would be reconsidered on a case-by-case basis.
- New development within a quarter-mile of springs, guzzlers, or riparian areas would be avoided whenever possible. This restriction is intended to minimize wildlife disturbance at key water locations and to limit impacts on sensitive watersheds. Activities that could be allowable in these areas are spring developments, water pipelines, fences, and project maintenance and repair. Power lines, roads, and other linear developments could be allowed, with suitable mitigation, to cross riparian areas where there are no viable alternatives.
- Livestock water sources would be made available for wildlife yearround, as needed and to the greatest extent practicable.
- Stream crossings, if necessary, would be designed to minimize adverse impacts to soils, water quality, and riparian vegetation and provide for fish passage as appropriate.
- As appropriate, roads and trails adjacent to streams or riparian areas that impact water quality may be redesigned, repaired, maintained, or re-located to a location not impacting the water quality.

L.3.5 THREATENED AND ENDANGERED, AND SENSITIVE SPECIES

Special status species survey, avoidance, take minimization, mitigation measures, compensation, and monitoring measures required in biological opinions (programmatic and site-specific) will be incorporated into project design, attached as conditions of approval, grant, or lease terms and conditions, or otherwise implemented in all BLM projects and authorizations that may affect listed species. These measures may change due to new information or USFWS and CDFG requirements. Current practices are found below.

General Guidelines for Conserving Habitat and Minimizing Project Impacts

- Habitat disturbance will be minimized and conducted in a manner that reduces, as much as possible, the potential for take of individuals of a listed species. Existing roads and routes of travel will be used, to the greatest extent practicable. Natural drainage patterns will be maintained to the greatest extent practicable.
- Avoid large draws and drainages with saltbush to the greatest extent practicable.

- The area of disturbance will be reduced to the smallest practical area, considering topography, placement of facilities, location of burrows, nesting sites or dens, public health and safety, and other limiting factors.
- Work area boundaries will be delineated with flagging, temporary fencing or other marking to minimize surface disturbance associated with vehicle straying.
- To the extent practicable, use previously disturbed areas to stockpile excavated materials, store equipment, dig slurry and borrow pits, locate trailers, park vehicles, and performing other surface-disturbing actions.
- All oil spills will be contained closest to the source site as possible. The USFWS will be notified within 48 hours of any oil spill.
- Project employees will be directed to exercise caution when commuting within listed species habitats. The speed limit on unpaved roads not maintained by the county shall be a maximum of 20 MPH, in order to minimize wildlife casualties.
- Cross-country travel by vehicles is prohibited, unless specifically authorized by BLM for the project. The use of all terrain vehicles (ATVs) may be considered for projects that require cross-country travel (such as project survey staking, geophone placement and retrieval).
- Project employees will be provided with written guidance governing vehicle use restrictions, speed limits on unpaved roads, and fire prevention and hazards.
- A worker education program will be conducted for all employees working on the project sites in listed species habitats. The education program will include identification of listed species and their habitats, project mitigation measures and stipulations, reporting requirements, and penalties for failure of compliance.
- All spills of hazardous materials within endangered species habitats shall be cleaned up immediately.
- Unless specified for reducing impacts to blunt-nosed leopard lizards, actions during evening hours when some listed species are active and vulnerable to vehicle or equipment-induced injury or mortality will be minimized.
- Trash and food items will be contained in closed containers and removed daily.
- Firearms will be prohibited from project sites.
- Trenches or holes should have at least one escape ramp for each 1,000 feet of open trench. Escape ramps should be earthen and at a slope no steeper than 1:1. Trenches will be checked in the morning before beginning work and at the end of the work day. Any entrapped animals will be allowed to escape unharmed.
- Pets will not be permitted on construction project sites.
- Listed species shall be protected from the hazards posed by oil sumps. All hazardous exposed oil sumps shall be screened or eliminated (California Laws for Conservation of Oil and Gas 1995). All screening of sumps shall meet the following specifications: (1) be not greater than 2 inch nominal mesh, (2) be of sufficient strength to restrain entry of wildlife, and (3) be supported in such a manner so as to prevent contact with the sump fluid. Oil sumps shall be designed, constructed, and maintained as to not be a hazard to people,

livestock, or wildlife, including birdlife. Oil sumps shall be filled with earth after removal of harmful materials (California Code of Regulations 1982).

- Biologists and law enforcement personnel from the California Department of Fish and Game and the Service shall be given complete access to the project area to review monitoring and mitigation activities.
- Project activities that are likely to cause the amount or extent of take to be exceeded shall cease immediately.
- The protective measures being implemented for listed species shall be extended to candidate and proposed species in the project area to the maximum extent practicable.
- Restoration will be required on unused portions of the project area, or oil and gas lease when deemed necessary by the BLM to maintain or improve habitat values. Restoration will be required when a project or lease is abandoned. The BLM will be contacted for specific restoration requirements upon project completion.

Disturbance Levels

- Surface disturbance on BLM lands in Reserves (Red Zones) will not exceed 10% of any 640-acre section, aliquot section, or aggregate of adjacent aliquot sections.
- Surface disturbance on BLM lands in Corridors (Green Zones) will not exceed 25% of any 640-acre section, aliquot section, or aggregate of adjacent aliquot sections.

Survey Requirements

- Threatened and Endangered Reserves and Corridors will be presumed to be occupied habitat for listed animal species. Wildlife surveys will determine listed species presence and/or important habitat features for listed species. Surveys will be conducted within 30 days prior to the onset of ground breaking actions and will include daytime line transect surveys which will be conducted by walking the project area and appropriate buffer at 30 to 90 feet intervals. Transect width will be adjusted based on vegetation height, topography, etc. Surveys will include areas of surface disturbance, appropriate buffers, access routes, and cross-country travel routes. Surveys will be designed to identify habitat features such as burrows, dens, and precincts, and not species presence or absence.
- If non-BLM lands are also involved in a project, an applicant may choose to comply with some other USFWS- and CDFG-approved program (such as the Metro Bakersfield HCP or the proposed Kern County Valley Floor HCP). If an alternative program were selected, the survey requirements for the alternative program may be substituted at the USFWS's and BLM's discretion.

San Joaquin Kit Fox

Survey for natal, known, occupied, and potential dens in the project area and a 200-foot buffer.

Blunt-Nosed Leopard Lizard

Survey for burrows that may be used by blunt-nosed leopard lizards in the area to be disturbed by the project and a 50-foot buffer.

Giant Kangaroo Rat

Survey for precincts in the area to be disturbed by the project and a 50-foot buffer.

Tipton Kangaroo Rat

Survey for burrows in the area to be disturbed by the project and a 50-foot buffer.

Federal Proposed and Federal Candidate and State Listed Animal Species

Survey for important habitat features in the area to be disturbed by the project and a 50-foot buffer.

Kern Mallow, California Jewelflower, and San Joaquin Woolly-Threads

Survey during the appropriate season in the area to be disturbed by the project and a 50-foot buffer. Conduct reconnaissance-level surveys to determine habitat suitability using meandering walk-over surveys. Conduct site-specific surveys in appropriate habitat by walking transacts with 50-foot spacing.

At the discretion of an approved BLM botanist, existing information may be used to conclude that the site is not occupied and surveys are not required or that project impacts are acceptable without detailed surveys.

Hoover's Woolly-Star

Survey for species in the area to be disturbed by the project and a 50-foot buffer, if season is appropriate. If season is inappropriate to detect species or skeletons, use surveys to evaluate potential of a site to support the species. Reconnaissance level surveys to determine habitat suitability will be conducted using meandering walk-over surveys. Site-specific surveys in appropriate habitat will be conducted by walking transects at 50-foot intervals.

At the discretion of an approved BLM botanist, existing information may be used to conclude that the site is not occupied and surveys are not required or that project impacts are acceptable without detailed surveys.

Bakersfield Cactus

Bakersfield cactus is known to occur on one section of split estate land within the Green Zone. Bakersfield cactus is not known to occur elsewhere in either the Red or Green Zone. Survey project sites in potential habitat using meandering walk-over surveys.

State-Listed and Federally Proposed and Candidate Plant Species

Survey in the area to be disturbed by the project and a 50-foot buffer, if season is appropriate. If extant populations or high potential habitat is known to occur in the project area, the BLM may require surveys during the appropriate season. At the USFWS/BLM's discretion, existing information may be used to conclude that the site is not occupied and surveys are not required.

Measures for Minimizing Take

San Joaquin Kit Fox

San Joaquin kit fox dens will be protected, to the maximum extent practicable. Known, occupied, and potential nonnatal dens will be buffered by 100 feet. Unoccupied natal dens will be buffered by 200 feet to protect the physical den site. If an active natal den is encountered, the USFWS will be contacted immediately, before any action is taken.

The project construction area will be delineated with a temporary fence, flagging, or other barrier. Actions within the buffer zone shall be limited to vehicle and equipment operation on existing roads.

Non-fatal disturbance, such as above ground blasting, vibroseis, and shothole, shall not occur within 500 feet of an active San Joaquin kit fox natal den between November 1 and August 15 to reduce disruption of kit fox breeding.

Potential dens will be monitored and temporarily blocked. Den monitoring will follow the guidelines described below. In the event that a den is encountered that needs to be excavated, the following will apply:

Non-natal dens within a construction area may be carefully excavated at any time of the year by Service-approved biologists or under the supervision of a Service-approved biologist. Prior to the destruction of the den, the den will be monitored for at least three consecutive days to determine its current status. Activity at the den will be monitored by placing tracking medium at the entrance and by spotlighting. If no kit fox activity is observed during this period, the den will be destroyed immediately to preclude subsequent use. If kit fox activity is observed at the den during this period, the den will be monitored for at least five consecutive days from the time of observation to allow any resident animal to move to another den during its normal activities. Use of the den can be discouraged during this period by partially plugging the entrance(s) with soil in such a manner that any resident animal can escape easily. Destruction of the den may begin when, in the judgment of the Service-approved biologist, the animal has moved to a different den. If the animal is still present after five or more consecutive days of plugging and monitoring, the project biologist shall contact the BLM or the Service to obtain permission to excavate the den when it is temporarily vacant, for example, during the animal's normal foraging activities.

Destruction of the den will be accomplished by careful excavation until it is certain that no kit foxes are inside. The den will be fully excavated and then filled with dirt and compacted to ensure that kit

foxes cannot reenter or use the den during the construction period. If, at any point during excavation a kit fox is discovered inside the den, the excavation activity will cease immediately and monitoring of the den will be resumed. The BLM and the Service will be notified immediately. Destruction of the den may be resumed, when in the judgment of the Service-approved biologist, the animal has escaped from the partially destroyed den.

If an unoccupied natal den cannot be avoided, the den will be carefully excavated by a Service-approved biologist with permission from the Service or the BLM. Excavation of unoccupied natal dens will be allowed only between August 15 and November 1.

Pipes and culverts will be searched for kit fox prior to being moved or sealed, to ensure that kit foxes are not being entrapped. Any kit fox found will be allowed to escape unimpeded. Pipes and culverts with a diameter greater than 4 inches will be capped or taped closed after searching them.

Occupied pipe dens will be protected to the maximum extent practicable. Pipe dens will be buffered to protect the physical den site and kit fox activity. Removal of pipe dens will follow the monitoring and plugging procedure described above for natural dens.

Blunt-Nosed Leopard Lizard

If a blunt-nosed leopard lizard is observed in the project area or along the access route BLM will be immediately contacted. BLM will provide additional measures that must be complied with to avoid impacts to blunt-nosed leopard lizards.

Avoid burrows that may be used by blunt-nosed leopard lizards, to the greatest extent practicable.

The biological monitor shall check the project area and access route daily during the blunt-nosed leopard lizard active season to determine the presence or absence of lizards in the work area. If blunt-nosed leopard lizards are observed in the project area or along the access route BLM will be immediately contacted. BLM will provide additional measures that must be complied with to avoid impacts to blunt-nosed leopard lizards. As part of the post-construction report, a map showing the location, date and time of the observation will be submitted.

If blunt-nosed leopard lizards are known or likely to occur in the general project area:

Avoid burrows that may be used by blunt-nosed leopard lizards.

Locations of activities with potential to collapse or block burrows (sleeper placement, stockpile, storage and parking areas, trenching) will be approved by the biological monitor.

The biological monitor may allow certain activities in burrow areas if, in his or her judgment, the combination of soil hardness and activity impact is not expected to collapse burrows. Activities authorized by the biological monitor in burrow areas will be documented and included in any report.

Roadway sections where blunt-nosed leopard lizards have been observed or are likely to occur should be clearly marked to prevent workers from driving off the road and over burrows. Barriers, such as fencing, may also be installed.

A brief description of measures taken to avoid burrow collapse will be included in any report, including the post-construction report.

In addition, for project activities that occur during the blunt-nosed leopard lizard active season (approximately April 15 to October 15) the following will apply:

- Notify the BLM that blunt-nosed leopard lizard active season measures are being implemented;
- When possible, conduct project activities at night or during blunt-nosed leopard lizard inactivity periods (generally when temperatures are below 77 degrees F and above 99 degrees F);
- All personnel will be advised to reduce speeds on sections of the access/egress route with potential to support blunt-nosed leopard lizards.
- All vehicle operators will check under vehicles and equipment prior to operation.
- Any trenches or pits will be inspected by the biological monitor in the morning, late afternoon, at the end of the work day and prior to backfilling to free any blunt-nosed leopard lizards that may become entrapped. Trenches or holes should have at least one escape ramp for each 1,000 feet of open trench. Escape ramps should be earthen and at a slope no steeper than 1:1.

A flashing barrier may be installed around the work area to prevent blunt-nosed leopard lizards from entering the work area. The flashing barrier will be constructed of 18-inch or wider flashing, buried 6-inches in depth and reinforced with rebar or fence posts. Silt fencing will be used to isolate areas inside the exclusion fence. If a blunt-nosed leopard lizard is subsequently found within the fenced area, the fence will be removed (in that area) and the lizard will be allowed to leave the exclusion zone. Surveys will continue until blunt-nosed leopard lizards are no longer observed inside the flashing barrier (i.e. no evidence for one to two weeks dependent upon the discretion of the biologist). Barrier installation should occur prior to emergence of blunt-nosed leopard lizards or by April 15. Locate flashing so that no burrows are destroyed and avoid burrows during barrier construction. Surveys will occur when temperatures are sufficient for leopard lizards to be above ground. The flashing barrier will remain in place until drilling and sump closure activities have been completed.

Burrows that cannot be avoided may be destroyed under the following circumstances:

- Burrows inside a barrier may be destroyed after the survey and monitoring requirements described above for flashing barriers has been met. Burrows should be carefully excavated under the supervision of a qualified biologist to verify that is it unoccupied and then destroyed.

- If any burrows are destroyed, the following information will be included in the post construction compliance report: the dimensions of the of the area impacted by burrow destruction/excavation; number of burrows destroyed/excavated; results of burrow excavation, including any observations of wildlife in excavated burrows; and any other information deemed useful by the consulting biologist.
- If a blunt-nosed leopard lizard were observed exiting a burrow, the burrow should be carefully excavated, under the supervision of a qualified biologist to verify that is it unoccupied and immediately destroyed.

The biological monitor shall check the project area and access route daily during the blunt-nosed leopard lizard active season to determine the presence or absence of lizards in the work area. If blunt-nosed leopard lizards are observed in the project area or along the access route, the biological monitor will take action to avoid impacts on lizards.

If a blunt-nosed leopard lizard is observed at the project site or along the access/egress route, the biological monitor will notify the BLM of the actions being undertaken. Initial notification may be by phone message. Written documentation, including GPS coordinates of lizard observations, will be included in any reports. The post-construction report will include a map showing the location, date, and time of any blunt-nosed leopard lizard observations.

Roadway sections where blunt-nosed leopard lizards have been observed should be clearly marked to prevent workers from driving off the road into blunt-nosed leopard lizard habitat or over burrows. Barriers, such as fencing, may also be installed.

The biological monitor must be on-site during appropriate temperatures for blunt-nosed leopard lizard activity. The biological monitor will escort all traffic through any area where blunt-nosed leopard lizards have been observed. Biological monitors will complete daily compliance reports, which will be summarized and included in the weekly report sent to the BLM.

Large vehicles (tankers, water trucks, drilling rigs) must be escorted to and from the worksite by a biological monitor during appropriate temperatures for blunt-nosed leopard lizard activity.

The biological monitor will provide the BLM with a brief weekly report describing any actions taken to avoid blunt-nosed leopard lizard impacts. This report may be submitted by e-mail to the BLM.

All reports must be submitted by the biological monitor conducting the work in the field or be reviewed by the field biological monitor. Alternately, the original report prepared by the field biological monitor may be attached to the report.

When the biological monitor determines that temperature patterns at the project site no longer support blunt-nosed leopard lizard activity for the season and with receipt of the BLM's concurrence, these active season measures may be discontinued.

If blunt-nosed leopard lizards have been observed in the project area or along the access route, and operations and maintenance will continue into the next blunt-nosed leopard lizard active season, an operations and maintenance plan (O&M Plan) will be submitted to BLM. The O&M Plan will outline the practices and mitigation measures that will be implemented to avoid impacts on blunt-nosed leopard lizards.

Giant Kangaroo Rat and Tipton Kangaroo Rat

Avoid active precincts by a buffer of 50 feet. Actions within the buffer zone will be limited to vehicle and equipment operation on existing roads. Actions within buffer zones will be confined to daylight hours.

Annually, the USFWS will advise the BLM if applicants should be required to implement the following capture and release program:

- If active precincts cannot be avoided, the area will be trapped no greater than seven days before ground-disturbing activities for five consecutive nights. On the day following the fifth trap night, burrows will be carefully excavated. Captured animals will be marked and may be released into enclosed artificial burrow systems outside the work area the following night. All work will be supervised by a USFWS-qualified biologist. At anytime during the year, the USFWS and the BLM may adjust or decide to discontinue the capture and release program.

Kern Mallow, California Jewelflower, San Joaquin Woolly-Threads, and Hoover's Woolly-Star

Extant populations will be avoided, to the greatest extent practicable. The locations of listed plants will be avoided and temporarily fenced or prominently flagged to prevent inadvertent encroachment by vehicles and equipment during the activity. No extant natural populations of California jewelflower are known from Kern or Kings Counties. If California jewelflower populations and individuals are discovered in these counties, they will be avoided by a 50-foot buffer.

If extant populations of Kern mallow, San Joaquin woolly-threads or Hoover's woolly-star cannot be avoided, surface disturbance should be scheduled after seed set and before germination. Collection of seed, with reseeding undertaken at the site following the activity, during seasonal time-frames and weather conditions favorable for germination and growth, may also be required. Topsoil may be stockpiled and replaced after project completion. Topsoil will not be required to be stockpiled for greater than one year.

Impacts on extant populations may be considered minimized when (a) the number of plants lost is cumulatively less than 3 percent of the impacted population and disturbance is temporary, or (b) the amount of habitat lost is less than 3 percent of the occupied habitat for the impacted population.

Plants that are considered waifs or incidental, biologically marginal occurrences due to their presence on chronically disturbed habitat and a small population size (less than 50 individuals) may be disturbed at the USFWS/BLM's discretion.

The following guidelines shall be used to determine thresholds for facilities operation and maintenance activities that are within the scope of certain programmatic biological opinions:

- Estimated loss of individuals of plants from project activities will amount to no more than 3 percent of the individuals of the impacted population;
- Estimated extent of habitat disturbance amounts to no more than 3 percent of the estimated acreage of occupied habitat for the impacted population;
- Formal consultation shall be reinitiated if chronic and cumulative habitat loss and disturbance adversely affects a population that does not qualify as a waif or an incidental, biologically marginal occurrence by virtue of its presence on chronically disturbed habitat or small population size (less than 50 individuals);
- Herbicide use will not be permitted within 300 feet of listed plant populations identified during pre-project surveys.

Kern Mallow

The BLM and the USFWS may delineate a Kern Mallow Specialty Preserve, where special measures to conserve Kern mallow will be required. Delineation will include mapping the current distribution of Kern mallow, particularly the outer boundaries of core and satellite populations. Special measures may include:

- Completely avoiding areas occupied by Kern mallow;
- Conducting all surface-disturbing work after seed set and before germination, regardless of the presence or absence of Kern mallow;
- Compensating impacts with lands inside the specialty preserve;
- Stockpiling topsoil and replacing after project completion; and
- Using modified compensation ratios.

Bakersfield Cactus

Bakersfield cactus is currently known to occur on one section of split-estate land within a Corridor (Green Zone). Bakersfield cactus is not known to occur elsewhere in this zone. If Bakersfield cactus populations or individuals are discovered, they will be avoided by a 50-foot buffer in all areas where they are located.

San Joaquin Antelope Squirrel

To the maximum extent practicable, the measures described above for blunt-nosed leopard lizards will be applied to San Joaquin antelope squirrel in the project area and along the access/egress route.

In areas where antelope squirrels are suspected to occur and when temperatures are suitable for antelope squirrel activity, all personnel will be advised to check below parked vehicles and equipment before moving such vehicles or equipment. Caution will be taken when driving through areas where antelope squirrels may occur.

The applicant should implement CDFG-approved San Joaquin antelope squirrel take avoidance measures to minimize or eliminate the likelihood "take" of San Joaquin antelope squirrel and provide compliance with the California Endangered Species Act.

Project Monitoring

Each project will have a field contact representative (FCR), who will be responsible for overseeing compliance with protective stipulations for listed species. The FCR may be a project manager, project representative, BLM employee, or contract biologist. The FCR will have the authority to halt all actions that are in violation of the stipulations. The FCR will have a copy of all appropriate stipulations when surface-disturbing actions are being conducted on the site. The BLM and USFWS will be notified of the name and telephone number of the FCR prior to project construction.

Biological monitoring will be accomplished by a USFWS-qualified biologist. The biologist will be responsible for field crews to be in compliance with protection measures, performing surveys in front of crews as needed to locate and avoid sensitive species and habitat features, and monitoring project mitigation compliance. The biological monitor will have the authority to halt all non-emergency actions should danger to a listed species arise. Work will proceed only after hazards to the listed species are removed, the individual(s) is no longer at risk, or the individual(s) has been removed by the biologist.

The BLM will be provided with the name, phone number, and e-mail of the field biological monitor prior to construction. If not already on file at the BKFO, a copy of the field biological monitor's resume or curriculum vitae will be submitted to the BLM prior to the commencement of construction.

Biological monitors will be required to be on-site during initial surface-disturbing actions to minimize direct take of listed species. Subsequent to initial surface disturbing activities, biological monitors are not required to be present but must be available within 24 hours notice from the applicant, the BLM, or the USFWS in order to troubleshoot potential take situations.

Biological monitors will be required to be on-site during placement of sleepers and pipe to minimize direct take of listed species.

At the BLM's/USFWS's discretion, on-site biological monitors may not be required if exclusion zones or surface disturbance areas are prominently marked with lath, flagging, or fencing, as necessary.

Biological monitors are required for kit fox den excavations.

In previously unsurveyed areas, biological monitors are required for routing cross-country travel to minimize impacts on habitat features.

Biological monitors may be required, if, on project inspection by the BLM, CDFG, or USFWS, noncompliance of project stipulations are observed and documented.

All reports must:

- Be signed and submitted by the biological monitor conducting work in the field, OR
- Be reviewed and signed by the biological monitor conducting work in the field, OR
- Include, as an attachment, the original report prepared and signed by the field biological monitor.

An e-mail report originating from the field biological monitor may be accepted as a signature.

Within 60 days of completion of construction, a brief post-construction compliance report will be provided to the BLM that addresses:

- Any revisions to habitat disturbance estimates;
- Any observed impacts on listed species, including take;
- A brief description of significant actions taken to comply with the provisions listed above;
- An overall evaluation of compliance with the provisions and any suggestions for changes to the provisions;
- Any information required due to the sighting of an additional species, such as a blunt-nosed leopard lizard.

Compensation

The compensation ratio for Kern mallow will be 9:1 for permanent impacts and 6:1 for temporary impacts on known populations. For all other species, the compensation ratio will be 3:1 for permanent impacts and 1.1:1 for temporary impacts on previously disturbed habitat.

If a new compensation ratio becomes established for a county or species, the BLM and USFWS may decide to modify compensation ratios.

For protected lands (such as federal lands, state wildlife areas, conservation banks, Lokern area) a replacement component will be added to the compensation ratio.

Compensation of habitat must be in kind. Land used for compensation must be of equal value or better than the land impacted. The same species must be present and habitat must be of an equal of greater value. Lands used for compensation for project impacts on Kern mallow, San Joaquin woolly-threads, blunt-nosed leopard lizards, and the kangaroo rats must support these species or be approved by the USFWS for these species. Lands used to compensate for impacts on a kit fox natal den must support breeding populations of kit foxes.

Ownership of compensation lands will be transferred prior to any surface disturbance to one of the following: the BLM; an entity acceptable to the BLM, USFWS, and CDFG that can effectively manage listed species and their habitats; the CDFG; or the USFWS for dedication to listed species habitat management. The USFWS will be informed before the actual transfer when land is transferred.

Areas preapproved to serve as compensation areas are the Lokern Road area, Buena Vista Valley, Semitropic Ridge, Allensworth, Kettleman Hills, Kern Water Bank, Carrizo Plain Natural area, or any Specialty Preserve agreed to by the BLM and the USFWS. Habitat linkage areas and small specialty preserves determined by the BLM, CDFG, and USFWS to be important for species conservation and recovery will be acceptable as compensation habitat. Coles Levee Ecosystem Reserve has historically served as a compensation area. The USFWS is monitoring the long-term viability of the bank and may choose to curtail approval of this area as a compensation area.

As an alternative to the above standard compensation method, applicants may provide a letter agreeing to dedicate existing mitigation credits or purchase additional mitigation credits at a USFWS-approved mitigation bank to compensate for any impacts.

The final compensation acreage will be adjusted on completion of construction, based on the actual amount of acreage temporarily and permanently disturbed.

The applicant may propose to conduct construction in a manner that results in no surface disturbance. The biological monitor will document surface conditions before and after construction to verify the lack of disturbance. The biological monitor will take before and after photographs of the construction corridor every 1,000 feet or as necessary to document the lack of disturbance. The same photo point locations and directions will be used for the before and after photos. GPS coordinates for each photo point will be provided to the BLM.

The USFWS and California Department of Fish and Game protocols will be employed to conduct special status species surveys.

Control of Non-native Species

Projects and activities on BLM lands will include measures to minimize the introduction and spread of weeds.

Weed control methods will follow integrated pest management principles.

Use of pesticides shall comply with applicable federal and state laws. BLM policy requires project-specific NEPA analysis and the issuance of a pesticide use permit before the use of pesticides. Only products on the California BLM's list of approved pesticides may be used.

The release of nonnative animal species will be prohibited, other than those legally introduced for biological control, or those released during legal hunts as regulated by CDFG.

Vehicles

Vehicles will remain on existing legal roads unless given specific written approval by the authorized BLM officer. Off-road travel will be discouraged.

In appropriate sites, constraints will be placed on vehicle speeds to reduce potential for roadkill, to minimize dust, and to protect sensitive animals and habitats.

L.4 SOILS

- Minimize soil disturbance by limiting developments to the smallest area possible and by using previously disturbed areas and existing roads to the extent practicable.
- Minimize surface disturbance on steep slopes, which are more prone to erosion.
- Restrict access and suspend authorized projects during wet weather when soil resources will be detrimentally affected by rutting, compaction, and increased erosion.
- Minimize fire control lines, both handline and dozerline, to the width necessary to effectively stop fire spread. Rehabilitate lines by smoothing out berms and installing waterbars prior to the rainy season.
- Assess the need for soil stabilization following wildfires. Use the Emergency Stabilization and Rehabilitation process to determine and implement needed actions.
- Follow guidelines for site reclamation in the Oil and Gas BMP section to protect soils, including topsoil conservation, scarifying or disking soil, recontouring the area, redistributing topsoil and providing ground cover through seeding or other methods.
- Actively patrol public lands to prevent unauthorized off-road travel. If unauthorized routes are found, block access to minimize further soil disturbance and reduce the potential for erosion through rehabilitation action.

L.4.1 ADDITIONAL INFORMATION ON BMPS FOR SOILS

- Erosion and sediment control: http://www.cabmphandbooks.org
- OHV BMP Manual for erosion and sediment control: http://www.watchyourdirt.com/erosion-control-files/

L.5 WATER RESOURCES

To meet the requirements of the Clean Water Act, the BLM is currently preparing a "Water Quality Management Plan" under an MOU with the California Water Resource Control Board. BMPs for non-point source pollution will be developed and approved by the State during this process. When approved, the Bakersfield FO will follow those BMPs during project implementation. In the interim, the following measures are examples of BMPs that will be utilized to protect water quality:

- Employ erosion control measures during watershed restoration activities to reduce or eliminate sediment transport or incidental sediment discharge.
- Erosion control measures include mulching, placement of hay bales and other drainage control features, construction of rolling dips, and seasonal limits on operations.
- Protect sensitive areas (including streambanks, lakes, wetlands, estuaries, and riparian zones) by reducing direct loadings of animal wastes and sediment. This may include restricting or rotationally grazing livestock in sensitive areas by providing fencing, livestock stream

crossings, and by locating salt, shade, and alternative drinking sources away from sensitive areas.

- Upland erosion can be reduced by, among other methods: (1) maintaining the land consistent with the California Rangeland Water Quality Management Plan or Bureau of Land Management and Forest Service activity plans or (2) applying the range and pasture components of a Resource Management System (NRCS FOTG). This may include prescribed grazing, seeding, gully erosion control, such as grade stabilization structures and ponds, and other critical area treatment.
- Road construction/reconstruction shall be conducted so as to reduce sediment generation and delivery. This can be accomplished by, among other means, following designs for road systems, incorporating adequate drainage structures, properly installing stream crossings, avoiding road construction in SMAs, removing debris from streams, and stabilizing areas of disturbed soil such as road fills.
- Manage roads to prevent sedimentation, minimize erosion, maintain stability, and reduce the risk that drainage structures and stream crossings will fail or become less effective. Components of this measure include inspections and maintenance actions to prevent erosion of road surfaces and to ensure the effectiveness of stream-crossing structures. This measure also addresses appropriate methods for closing roads that are no longer in use.
- Confine runoff onsite to reduce impacts of mechanical site preparation and regeneration operations—particularly in areas that have steep slopes or highly erodible soils, or where the site is located in close proximity to a waterbody.
- Conduct prescribed fire practices for site preparation and methods to suppress wildfires in a manner that limits loss of soil organic matter and litter and that reduces the potential for runoff and erosion.
- Addresses the rapid revegetation of areas disturbed during road construction—particularly road systems where mineral soil is exposed or agitated (e.g., road cuts, fill slopes, landing surfaces, etc.).
- Do not apply chemicals within 100 feet of perennial streams or channels with beneficial use(s) recognized by the state.
- Do not apply chemicals directly into intermittent streams or channels with beneficial use(s) recognized by the state.
- Avoid aerial application of chemicals when wind speeds would cause drift.
- Avoid aerial application of wildland fire chemicals within 300 feet of waterways and any ground application of wildland fire chemicals into waterways.
- To minimize water quality degradation and maintain soil productivity while achieving rapid and safe suppression of wildfire, limit use of heavy equipment near streams and on steep slopes when possible. Where fire trail entry into a riparian area is essential, angle the approach rather than have it perpendicular to the stream.

L.5.1 Mineral Exploration and Development

Require that operators obtain all required state and federal permits for the protection of groundwater and surface water quality.

- For actions resulting in more than one acre of disturbance, discharges resulting from construction will be managed in accordance with the applicable Regional Water Quality Control Board NPDES permit requirements addressing stormwater discharges.

L.5.2 Additional Information on BMPs for Water Resources

- BLM Water Quality Law Summary: http://www.blm.gov/nstc/WaterLaws/Chap5.html
- Example BMPs from Eugene, OR BLM Field Office: http://www.blm.gov/or/plans/wopr/exrmp/eugene/appendices/appendixc.html#BMPs
- Proposed Grazing Management Practices for Water Quality in California, from Rangeland Health Standards and Guidelines for California and Northwestern Nevada Final EIS: http://www.blm.gov/style/medialib//blm/ca/pdf/pa/rangeland_management/final_rangeland_health.Par.537ebc11.File.pdf/APPENDIX_10.pdf
- Policy for Aerial Delivery of Wildland Fire Chemicals near Waterways: http://www.fs.fed.us/rm/fire/wfcs/Application_Policy-MultiAgency_042209-UPDATE.pdf.
- USDA Forest Service Water Quality Management BMPs: http://www.fs.fed.us/r5/publications/water_resources/waterquality/water-best-mgmt.pdf
- http://www.waterboards.ca.gov/water_issues/programs/stormwater/bmp_database.shtml
- http://www.waterboards.ca.gov/water_issues/programs/nps/cammpr.shtml
- http://www.cabmphandbooks.com/

L.6 Cultural Resources

- The National Historic Preservation Act, Section 106 and 110, prior to the implementation of all proposed actions, cultural resource compliance would be coordinated pursuant to the current and any subsequent versions, supplemental procedures and amendments of the *National Programmatic Agreement Among the Bureau of Land Management, the Advisory Council on Historic Preservation, and the National Conference of State Historic Preservation Officers Regarding the Manner in Which the BLM Will Meet its Responsibilities Under the National Historic Preservation Act* and the *State Protocol Agreement Among the California State Director of the Bureau of Land Management and the California State Historic Preservation Officer and the Nevada Historic Preservation Officer Regarding the Manner in Which the Bureau of Land Management Will Meet its Responsibilities Under the National Historic Preservation Act and the National Programmatic Agreement Among the Bureau of Land Management, the Advisory Council on Historic Preservation, and the National Conference of State Historic Preservation.* Should the either of these agreements be terminated, the BLM would comply with requirements under Sections 106 and 110 of the National Historic

Preservation Act (NHPA) through the implementation of procedures put forth in 36 CFR 800.

- Archaeologists, law enforcement rangers, resource staff specialists, Native Americans, or designated volunteer stewards would patrol and monitor selected significant cultural resources on public lands in the Bakersfield FO to reduce threats from human and natural disturbances.
- The BLM would coordinate with Native Americans, cultural resource specialists, interdisciplinary specialists, conservationists, and interested public, as appropriate, to apply the best available science to determine the amount and type of maintenance desired at cultural sites that are threatened by human or natural causes and how best to mitigate identified problems.
- Continue support for native people to access traditional material collecting and gathering locations and ceremonial places. The Bakersfield FO holds resources used traditionally by the Native Americans, such as certain foods, medicinal resources, ceremonial items, and materials for making items such as baskets. The Bakersfield FO also contains sites that are of ceremonial or spiritual value to the native people. It is a federal policy to protect and preserve for the American Indian, the inherent right of freedom to believe, express, and exercise their traditional religions, including access to religious sites, use and possession of sacred objects, and freedom to worship through ceremonies and traditional rites (American Indian Religious Freedom Act of 1978). Executive Order 13007, Indian Sacred Sites (1996), directs federal agencies to manage federal lands in a manner that accommodates Indian religious practitioners' access to and ceremonial use of Indian sacred sites and that avoids adversely affecting the physical integrity of such sacred sites, to the extent practicable, permitted by law, and not clearly inconsistent with essential agency functions.
- Continue open dialogue and share information with Native Americans and ethnic groups that have cultural ties to lands managed by the Bakersfield FO.
- Conduct cultural resource inventory and evaluations for all projects that require soil disturbance or cause a visual intrusion on a historic property. The presence or absence of cultural properties would be determined prior to the approval of any surface-disturbing activity. When cultural properties are present, the project would be redesigned or modified to safely avoid impacting cultural sites or steps would be taken to adequately mitigate impacts through project redesign or data recovery.
- Soil erosion can severely impact surface and subsurface cultural resource integrity. Potential secondary impacts on cultural resources caused by erosion would be analyzed during project planning. Residual impacts on cultural resources outside the project area would be carefully considered in surface-disturbing projects.
- Identification, safe avoidance, or mitigation of potential adverse effect on cultural properties shall be required as a condition of a lease, permit, license, and other federal undertakings for both external and internal projects.

- Any late discovery of a cultural or paleontological resource during a project would be reported to the authorized officer. All activity in the immediate discovery area associated with the project would be suspended until an evaluation of the discovery is made by the archaeologist to determine appropriate actions to prevent the loss of significant cultural, paleontological, or scientific values. A written authorization to resume the project, or to take appropriate mitigation action, would be issued by the authorized officer.
- Sensitive cultural resource records, site location information, and traditional cultural properties and values would be held confidential from the public as deemed appropriate to protect historic properties (NHPA, Section 304 [a], Archaeological Resource Protection Act [ARPA], Section 9[a]).
- It is the policy of the BLM to 1) avoid impacts on significant cultural resources and traditional properties and values whenever possible; 2) to retain a representative example of the full array of cultural resource site types; and 3) to avoid inadvertent loss or destruction of cultural and paleontological resources by BLM actions or authorizations.
- Additional archaeological surveys would be required in the event a proposed project or its location were changed or modified after the initial survey is completed. This survey, associated documentation, and necessary compliance would be completed prior to project approval.
- Apply necessary measures to protect and preserve National Register-eligible historic and prehistoric resources by sustaining integrity, physical form, and materials associated with cultural resources. This could include installation of protective barriers, fences, or site capping; using regulatory and informational signs, kiosks, and brochures; limiting visitor access to sensitive sites; taking preventive measures to reduce erosion and other natural disturbances to sites, conducting data recovery to preserve a site's informational potential; providing visitor educational and awareness information by various means, such as interpretive exhibits, workshops, and tours; patrolling and monitoring the condition of historic properties; and identifying cultural resources through proactive field inventory, oral history, and archival records data compilation.
- Pursue identification and nomination of cultural properties to the NRHP.

L.7 Oil and Gas Standard Operating Procedures /Implementation Guidelines and Conditions of Approval

The following SOPs and implementation guidelines will be employed on all existing federal leases and private mineral developments, subject to the limits of BLM authority and the right of the owners/lessees to have reasonable access and development.

L.7.1 Implementation Guidelines

- All oil field activities that occur on land where the BLM has an interest, whether mineral or surface estate, should be conducted with the least impact practicable to sensitive resources.

- Wells that are not commercially developed should be reclaimed to natural contours and revegetated as soon as appropriate; i.e., restoration methods should consider timing of planting, acceptable species and evaluation criteria, and should be tailored to area-specific resource conditions and be compatible with the monument proclamation.
- Applications for permit to drill (APDs), sundry notices (leasehold activities requiring surface disturbance), and final abandonment notices will be reviewed using the existing NEPA approval process.
- Timely plugging and abandonment of depleted wells will be required. This includes plugging the well bore with cement, removing all materials and equipment, and recontouring/revegetation as specified in the conditions of approval.
- Design roads, well pads, and facilities for exploratory wells to impact and fragment the least acreage practicable. New facilities shall be designed to maintain natural drainage and runoff patterns, reduce visual impacts, and reduce hazards to wildlife, especially California condors. Noncommercial wells shall be restored as soon as appropriate using BLM restoration methods.
- Good housekeeping requirements will be enforced (i.e., operators will be required to maintain a neat and orderly appearance of sites, remove junk and trash, and otherwise minimize landscape intrusions).
- Sufficiently impervious secondary containment, such as containment dikes, containment walls, and drip pans, should be constructed and maintained around all qualifying petroleum facilities, including tank batteries and separation and treating areas consistent with the Environmental Protection Agency's Spill Prevention, Control, and Countermeasure regulation (40 CFR 112).
- Chemical containers should not be stored on bare ground or exposed to the sun and moisture. Labels must be readable. Chemical containers should be maintained in good condition and placed within secondary containment in case of a spill or high velocity puncture. The secondary containment must preclude entry from wildlife.
- Pipelines should be placed within existing disturbed rights-of-way, such as road shoulders, whenever possible.
- Roads shall be designed to an appropriate standard no higher than necessary to accommodate their intended functions.
- New wells and roads should be located in areas where cut and fill shall be minimized to the extent practicable.
- Operators will be encouraged or required to place multiple wells on a single pad where feasible in order to minimize unnecessary disturbance.
- Operators shall be required to maintain clean well locations and to remove trash, junk, and other materials not in current use.
- Other BMPs that may be applied to operations on BLM lands can be found on the Internet at http://www.blm.gov/bmp.

L.7.2 CONDITIONS OF APPROVAL

The following describes recognized engineering practices for the routine operation of oil and gas exploration and development activities, known as conditions of approval (COAs). These standard procedures are described in the Federal Onshore Orders and are further clarified in the Code of Federal Regulations (CFR 43, October 2007).

Standard regulations could be supplemented with additional COAs, which address sensitive issues within the Bakersfield FO. Critical issues underlying the federal regulations and supplemental COAs are the protections of usable aquifers, mineral zones, including hydrocarbons, surface environmental issues, site safety and well control, and site reclamation.

For more specific information on the requirements for obtaining permit approval and conducting environmentally responsible oil and gas operations on Federal lands and on private surface over Federal minerals, please see *The Surface Operating Standards and Guidelines for Oil and Gas Exploration and Development*, current edition (commonly referred to as The Gold Book). The Gold Book may be found online at:

http://www.blm.gov/style/medialib/blm/wo/MINERALS__REALTY__AND_RESOURCE_PROTECTION_/energy/oil_and_gas.Par.18714.File.dat/OILgas.pdf.

The BLM will inspect and monitor oil field activity in the following phases of oil and gas development:

- Geophysical/seismic;
- Drilling a new well;
- Interim Reclamation of a producing well;
- Regular Production and Environmental Surface inspections;
- Temporary abandonment of a producing well (idle well);
- Plugging and abandonment of a well;
- Surface reclamation.

No special COAs are normally added for routine producing well operations. The following describes the COAs applicable to each of the oil and gas development phases on existing federal oil and gas leases.

L.7.3 DRILLING A NEW WELL

After an APD has been received by the BKFO, a review of engineering design and potential effects on sensitive resources will be undertaken. During the review stage of an oil and gas project, either the operator or the BLM will note special conditions on the application. Modified proposals will be developed cooperatively with the applicant to ensure that the modified project still meets the applicant's objective. Any special conditions will be attached to the APD by the BLM, and the applicant will be informed within seven days of receipt of the APD if there are deficiencies that need

to be corrected. In addition to BLM-wide regulations, the BKFO has developed its own local procedures, as follows:

Pits. The BLM encourages the use of closed-loop or semi closed-loop mud systems whenever possible. If pits are utilized, they must remain free of any hydrocarbons. Hydrocarbons should be removed from pits upon discovery. If hydrocarbons enter the pit or are likely to enter the pit, the pit must preclude wildlife entry. Netting or other effective methods should be utilized to preclude wildlife entry. Flagging of pits is no longer considered an effective means to prevent wildlife entry to pits.

Steam Injectors. All steam injection wells within a 300-foot radius of a new location must be shut in a minimum of three days before the spudding (beginning drilling operations) of a new well.

Conductor Pipe. A minimum of 50 feet of conductor pipe is to be set and cemented to the surface. The conductor pipe must be equivalent to or exceed the properties of A-25-grade line pipe.

Diverter. Before spud, a diverter system will be installed on the conductor pipe and function tested. The test shall be recorded in the drilling log. The diverter system, at a minimum, shall consist of an annular type preventer (minimum working pressure 1,000 psi), 2-inch (minimum ID) kill lines, and 6-inch (minimum ID) diverter lines with no internal restrictions or turns. A full opening, hydraulically controlled valve shall be installed in the diverter line that will automatically open when the annular preventer is closed. The accumulator system should have sufficient capacity to close the annular preventer and open the hydraulically controlled valve.

Remote controls for the diverter system shall be located on the rig floor and readily accessible to the driller. Remote controls shall be capable of closing the annular preventer and opening the hydraulically controlled valve. Master controls shall be located at the accumulator and should be capable of closing and opening the annular preventer and opening the hydraulically controlled valve. The diverter system shall be function-tested daily and the test recorded in the drilling log.

General Casing and Cementing. A Subsequent Report (Form 3160-5) detailing the size, weight, and grade of the casing; the amount and type of cement, including additives; and a copy of the service company's materials ticket and job log shall be submitted to the BLM within five business days following the cementing of the casing string. Each casing string (except conductor pipe) shall be pressure tested, before drilling out the casing shoe, to 0.22 psi/ft of casing string length or 1,000 psi, whichever is greater, but not to exceed 70% of the internal yield pressure of the casing. The casing pressure test shall be recorded in the drilling log. The wait-on-cement time for each casing string shall be adequate to achieve a minimum of 500 psi compressive strength at the casing shoe before drilling out.

Drilling Fluids. Sufficient quantities of drilling fluid (mud and water) shall be maintained at the well site, at all times, for the purpose of controlling steam kicks.

L.7.4 Temporary Abandonment of a Producing Well (Idle Well)

Oil and gas exploration and development is a cyclical business, with periods of high and low levels of activities. On occasion, an operator may decide to temporarily shut in producing wells and wait for conditions to improve. The highly viscous nature of most Kern County crude oil, typical low well head pressures, and the relatively low corrosive properties of the fluids (low sulphur crude) make the known dangers of shutting in a well for long periods and then bringing it back online less of a mechanical problem in the BKFO than in other producing regions of the country. Monitoring and correcting the problem has been successfully undertaken by the California Division of Oil, Gas, and Geothermal Resources and the BKFO.

The following additional conditions *may* be required before the temporary abandonment of a producing oil/gas well, service well, or an injection well.

Zone Isolation. The requirement to isolate the producing interval (General Requirement #4) is waived. This waiver is based on the information submitted with the application and the geologic data in *Volume II - California Oil and Gas Fields*, (field name) which indicates the absence of usable water aquifers above the producing horizon in (section in which well is located).

Mechanical Integrity of Casing. The mechanical integrity of the casing may be determined using the ADA pressure test method.

Fluid Surveys. In accordance with the requirements of the State of California Idle Well Program, a fluid level survey will be performed at two- to five-year intervals while the well is temporarily abandoned. A copy of the survey will be submitted to the BLM within five business days of the survey.

Monitoring of Wellhead Pressures and Temperatures. Wellhead pressure and temperature will be continuously monitored while the well is temporarily abandoned. Any pressure/temperature change will be promptly reported to the BLM.

Isolation of the Producing Interval. The producing interval shall be isolated by setting a plug in the casing within 100 feet above the producing interval if a rising fluid level, an increasing wellhead pressure, or an increasing wellhead temperature is detected. The plug could be either a retrievable or drillable-type bridge plug or a cement plug of at least 100 feet in length.

L.7.5 Producing, Plugging and Abandonment of a Well

No additional conditions are typically attached to the abandonment of a well in California. Onshore orders describe the plugging procedure. Final abandonment would normally be witnessed by the BLM. No final surface site marker is required by the BKFO, but a permanent buried marker is required.

Surface Reclamation (Interim or Final)

Conditions for the recovery of an oil well site are unique to each area's ecosystem and habitat. The following examples of COAs have been developed for use within the BKFO. The applicability of any or all of these COAs will be determined based on site-specific conditions.

General. The operator (or holder) shall prepare a seedbed by scarifying the disturbed area, distributing topsoil uniformly, and possibly disking the topsoil, as directed by the BLM authorized officer.

The operator shall recontour the disturbed area and obliterate all earthworks by removing embankments, backfilling excavations, and grading to reestablish the approximate original contours of the land in the area of operation.

The operator shall uniformly spread all topsoil over all unoccupied disturbed area. Spreading should not be done when the ground or topsoil is frozen or wet.

The operator shall seed all disturbed area, using an agreed on method suitable for the location using locally collected seed. Seeding shall be repeated if a satisfactory stand is not obtained, as determined by the BLM authorized officer upon evaluation after the first growing season.

The operator shall arrange to have a biologist available to assist the construction workers in the identification and avoidance of endangered species.

Producing Wells. Site interim reclamation for producing wells shall be accomplished for portions of the site not required for continued operation of the well. The following measures are typical reclamation requirements:

- Production facilities and equipment is placed to maximize interim reclamation;
- Closing drilling fluid pit (mud pit) if present;
- Recontouring the pad, leaving only enough level ground for possible future workover operations;
- Cut and fill slope vegetation;
- Interim reclamation of access roads;
- Site fencing;
- Berm removal and site grading;
- Polluting substances, contaminated materials disposed of properly.

The Surface Operating Standards and Guidelines for Oil and Gas Exploration and Development "The Gold Book" (Current Edition) should be referenced for more detailed information.

Nonproducing Wells. Rehabilitation on the entire site shall be required and should begin as soon as practical, depending on prevailing weather conditions. Cut and fill slopes shall be reduced and graded to blend to the adjacent terrain.

Drilling fluids held within pits may be allowed to dry for up to six months. Fluids that will not dry must be removed. All polluting substances or contaminated materials, such as oil, oil-saturated soils, and gravels, shall be removed to an approved site.

Drainages shall be reestablished and temporary measures will be required to prevent site erosion until vegetation is established.

After final grading and before replacement of topsoil, the entire surface of the site shall be scarified to eliminate slippage surfaces and to promote root penetration. Topsoil should then be spread over the site to achieve an approximate, uniform stable thickness consistent with the established contours.

Permanent Well Abandonment. The surface management agency is responsible for establishing and approving methods for surface rehabilitation and determining when this rehabilitation has been satisfactorily accomplished. At this point, a subsequent (final) report of abandonment will be approved.

Hydraulic fracturing. Hydraulic fracturing is a common and important process to stimulate oil and gas well production and has been used more than 1 million times for many years all over the world. Fracturing fluid is pumped under high pressure down the wellbore and into the reservoir rock to create fractures (i.e., cracks) in order to increase the immediate production rate and ultimate total recovery of oil and natural gas over the economic life of the well. In a typical fracturing job, approximately 99.5% of what is injected is water and sand.

In FY 2010, only about 5 percent of the federal wells drilled in California (approx. 15 out of 300+) have employed hydraulic fracturing. None of these used diesel as the frac fluid, a source of concern to the public. In addition, none of these were in areas where there were fresh water aquifers, another concern.

According to industry sources, it is likely that more California wells in the future will utilize hydraulic fracturing because of recent interest in deep shale prospects. Current Federal regulations require no special reviews or approvals for routine fracturing, assuming prudent operating practices are employed and no new surface disturbance occurs. For non-routine fracturing, the operator needs prior approval.

A number of studies have been initiated, and BLM will implement any new regulations that may be developed as a result of these studies. BLM is committed to ensuring the highest standards of human and natural resource/environmental safety.

L.7.6 Geophysical Exploration

A large number of the threatened and endangered and sensitive species protection measures have been developed as a result of formal consultations between the BLM and USFWS for geophysical exploration. Many measures have also been required by CDFG for projects complying with CESA, CEQA, and the Fully Protected Species Act. Once protection measures are identified in federal biological opinions or in CDFG permits, they generally become SOPs to obtain subsequent USFWS and CDFG permits. As additional measures are developed to minimize the adverse effects from

geophysical exploration, they are likely to become required actions in order to comply with ESA and CESA and thus would become additional SOPs.

Project Reconnaissance

A general reconnaissance of the project area will be conducted to describe the project area and to determine the extent of listed species presence and habitat. This information will used to identify areas where listed species are likely to occur, land uses that preclude listed species use, topography that may preclude listed species use, habitat types that support listed species, and the extent of small mammal burrowing activity along source lines, receiver lines, travel routes, and staging areas. Reconnaissance surveys will be supplemented by conducting general field visits of the project area, obtaining aerial images of the project area, land ownership, slope and topographic features, general habitat or vegetation mapping, and land use maps using GIS, California Natural Diversity Data Base, and other information for the project area.

Avoidance Criteria

Source Points: Vibroseis, Shot Hole, and Staging Areas

Vibroseis and shothole drilling and vehicle staging avoidance criteria for off-road locations (minimum exclusion zone radius):

Avoidance Buffers

- 200 feet from occupied San Joaquin kit fox natal or pupping dens;
- 150 feet from known San Joaquin kit fox natal or pupping dens;
- 100 feet from occupied San Joaquin kit fox dens;
- 100 feet from known San Joaquin kit fox dens;
- 50 feet from potential San Joaquin kit fox dens;
- 50 feet from giant kangaroo rat burrow systems;
- 30 feet from potential or known San Joaquin antelope squirrel burrows;
- 30 feet from potential or known blunt-nosed leopard lizard burrows;
- 50 feet from badger dens;
- 50 feet from burrowing owl burrows;
- 50 feet from populations of listed plants; and
- Natural vernal pools and natural ponded waters will be avoided by 300 feet (Table 1 – above).

Travel Routes

- Travel routes shall be placed so that there are no sensitive wildlife resources within a 25-foot corridor (12.5 feet from centerline) along access routes and source lines.

Receiver Lines

- Receiver lines will be walked if necessary to avoid direct impacts on burrows and features.
- Where receiver lines are driven by ATVs/UTVs, avoidance buffers will be enforced.

Geodetic Surveys

Geodetic surveys of the source and receiver points in listed species habitat shall be completed in a manner to avoid impacts on listed species.

- Surveys may be conducted without biological monitors where all cross-country activities in listed species habitat will be conducted on foot, with ATVs/UTVs confined to existing roads and two-track trails.
- Where ATVs/UTVs are used traveling cross-country in conserved areas and BNLL habitats, biological surveys to identify travel routes and avoidance zones shall be completed before, or concurrent with, conducting the geodetic surveys.
- ATVs/UTVs may be used outside of conserved areas or BNLL habitat without biological surveys where speeds are not in excess of 10 miles per hour in cross-country travel. All habitat features (e.g., burrows, dens, listed plant populations) shall be avoided. If this is not possible, biological monitors shall accompany survey crews using ATVs/UTVs.
- If ATVs/UTVs are observed to collapse burrows suitable for BNLL use, to compact or disturb soil, uprooting plants, or extensive mortality to native shrub species, activities shall be conducted on foot or travel routes shall be identified ahead of survey crews.

Source Point Activities

Geophysical surveys of the source points and all associated travel in listed species habitats shall be completed in a manner to avoid impacts on listed species.

- Before commencement of seismic testing activities, an agency-approved biologist shall conduct preactivity surveys of proposed vibrator, shot hole, source point travel paths, and staging areas in listed species habitats.
- Where seismic lines cross threatened or endangered species habitat, the survey corridor within which testing and ancillary vehicles operate shall be limited to a maximum width of 25 feet (12.5 feet on either side of the centerline). These activity zones shall be reduced, where possible, to avoid endangered species sites such as occupied kit fox dens or kangaroo rat burrows.
- All cross country vehicle travel will remain on the flagged routes and will avoid marked burrows.
- Small shot hole drilling vehicles, such as tractor-mounted drill rigs or ATV/UTV-pulled drill trailers is the suggested source method to be used on conserved lands (CDFG, some BLM, CNLM, other lands with threatened and endangered conservation easements, HCP conservation management areas, etc.) and in likely blunt-nosed leopard lizard habitats.

- San Joaquin kit fox dens, giant kangaroo rat, San Joaquin antelope squirrel, and blunt-nosed leopard lizard burrows shall be flagged for avoidance. As necessary to protect these species, additional habitat features, shall be identified and flagged for avoidance.
- Project effects will be monitored for species impacts as work progresses at source points, along travel routes and at staging areas.
- Efforts will be made to have biological monitors work with equipment to avoid burrows, dens and features where biological surveys were conducted before seismic survey activities.
- If biological surveys are conducted within 14 days of source point activities, survey routes do not need to be resurveyed ahead of source point vehicle travel.
- If biological surveys were conducted greater than 14 days before source point activities, biological monitors will be required to actively monitor and resurvey as necessary, travel routes and point locations to ensure that avoidance buffers are applied to any new listed species occurrences.
- Preactivity surveys will be conducted immediately ahead of seismic vehicle and drill rig deployment where previous surveys were not completed, providing that all avoidance buffers will be met.
- All project vehicles shall observe travel avoidance routes described in the biological preactivity survey notes that provide for avoidance of sensitive wildlife and special status plant resources.
- If avoidance distances cannot be met, a qualified biologist shall flag a rerouted travel corridor that avoids direct damage to burrows, dens, shrubs, or other habitat features.
- Source points may be skipped or moved to meet avoidance buffer criteria.
- The applicant shall make every reasonable effort to prevent collapse of dens and burrows by relocating source points to avoid dens and burrows or other means such as establishing exclusion zones as described above.
- Damage to shrubs will be minimized to the maximum extent practicable.
- Project related vehicles should be confined to existing primary or secondary roads or to specifically delineated project areas that have had biological surveys to avoid listed species.
- Vibroseis vehicles may be used on existing roads within avoidance buffer distances provided that biological monitors shall accompany vibroseis crews to avoid direct impacts on listed species in roads where disturbance will occur.

Receiver Line Activities

Geophysical surveys of the receiver points and all associated travel in listed species habitats shall be completed in a manner to avoid impacts on listed species.

- Before deployment of receiver lines, geophones, and related equipment, a qualified biologist shall conduct preactivity surveys of proposed geophone travel paths and receiver points. This may be done after the geodetic survey, but before the receiver line deployment.

- All avoidable San Joaquin kit fox dens, giant kangaroo rat, San Joaquin antelope squirrel, blunt-nosed leopard lizard burrows, and listed plant populations within the immediate vicinity of receiver lines, and points shall be prominently staked or flagged to alert project personnel to their presence.
- All project-related flagging shall be collected and removed after completion of the project.
- Damage to shrubs will be minimized to the maximum extent practicable.
- Vehicles in cross-country travel will remain on flagged routes and will avoid marked burrows. A biologist will assist project-related receiver line cross-country travel, geophone placement, and staging areas to avoid listed species and their habitat features.

Habitat Mitigation Measures

Geophysical surveys of the source and receiver points and all associated travel in listed species habitats shall be completed in a manner to minimize impacts on listed species habitats.

- During geophone deployment, work crews shall make every reasonable effort to avoid damaging shrubs, washes, drainage banks, and cryptogamic crusts.
- Small shothole drilling vehicles, such as tractor-mounted drill rigs or ATV/UTV-pulled drill trailers, is the suggested method to be used in listed species habitats.
- Off-road travel corridors shall be clearly delineated to contain project-related vehicles within marked travel routes to reduce impacts on large shrubs and washes.
- Damage to shrubs will be minimized to the maximum extent practicable.
- Project-related vehicles shall be restricted to approved travel routes and paths/roads.
- Large shrubs shall be avoided by carefully selecting travel paths/roads to avoid crushing shrubs.
- Washes shall be avoided by all vehicular activity to the maximum extent practicable. Washes will be crossed to minimize project impacts. Washes shall not be used as travel routes.

Additional Species-Specific Mitigation Measures

Blunt-Nosed Leopard Lizard

When the project area is within the known range of blunt-nosed leopard lizards, the following measures will be implemented:

- Shrubs will be avoided to the maximum extent practicable.
- All potential burrows that may be used by blunt-nosed leopard lizards will be avoided.
- Project activities will be conducted during daylight when lizard activity is likely, but no daytime temperature criteria are required.
- Small shothole drilling vehicles, such as tractor-mounted drill rigs or ATV/UTV/UTV-pulled drill trailers, is the suggested source method to be used in likely blunt-nosed leopard lizard habitats.
- ATVs/UTVs may be used where avoidance criteria can be met.

- Vibroseis vehicles may be used on existing roads within buffer distances provided that biological monitors shall accompany vibroseis crews to avoid direct impacts on blunt-nosed leopard lizards.
- Biological monitors will look for active leopard lizards aboveground within and directly adjacent to the seismic cross-country travel corridors.
- Vehicles parked in blunt-nosed leopard habitat for greater than one hour shall be inspected under and around the vehicle for BNLL. Vehicles will not be moved until any BNLL observed have moved a safe distance to avoid being crushed.
- All potential burrows of this species will be flagged for avoidance within avoidance buffer zones.
- Potential habitat will be considered suitable for blunt-nosed leopard lizards within the range of the species by the following criteria:
    - Slope is less than 30%, most favorable less than 10%,
    - Vegetation density is open to allow blunt-nosed lizard movements, and
    - Burrows are available and suitable for BNLL use.

San Joaquin kit fox

If damage or destruction to a known or occupied San Joaquin kit fox den cannot be avoided during project activities, the BLM and USFWS shall be contacted immediately for guidance.

Listed Plant Species

- Vibroseis units and drill buggies/tractors/ATV/UTV/UTV-trailers will follow flagged routes around areas of listed plants on BLM and conserved lands. A 50-foot avoidance zone for special-status plant species will be enforced.
- Avoid populations of Hoover's woolly-star to the maximum extent practicable in the growing season. Populations of special-status plants will be avoided by relocating and/or reconfiguring source points, receiver points and travel routes. If it becomes necessary to locate a project in an area where Hoover's woolly-star is known or thought to be present, every reasonable effort shall be made to wait until after seed set before beginning ground disturbances. It will not be necessary to protect Hoover's woolly-star that has become reestablished in previously disturbed areas.
- When possible, conduct seismic surveys after seed set of listed plant species (generally after May 1).
- Avoid special-status plant species by relocating source points, travel routes, and receiver points to avoid listed plant populations by 50 feet.

Other Mitigation Measures

- Before the onset of ground disturbing project activities, a qualified wildlife biologist shall provide an employee orientation program to project personnel on the occurrence and distribution of listed species in the project area, measures being implemented to protect

these species during project actions, reporting requirements should incidental take occur, and applicable definitions and prohibitions under the Endangered Species Act.

- Qualified biologists shall accompany seismic survey vehicles and crews throughout the project area in areas with the potential to affect listed species.
- At least one qualified biologist shall accompany each vibrator set or drill rig crew working within endangered species habitat.
- Qualified biologists will be responsible to implement survey, take avoidance, monitoring, and reporting activities and shall perform the following:
    - Aid seismic crews in satisfying avoidance criteria and implementing project mitigation.
    - Aid seismic crews in relocating source points and receiver lines as necessary.
    - Observe and note all pertinent information concerning project effects on listed species.
    - Avoid the take of blunt-nosed leopard lizards; and associated burrows
    - Assist the seismic contractor in conducting the proposed project in such a manner as to avoid adverse effects on endangered and threatened species.
- Biological monitors are expressly empowered to order cessation of seismic activities if take avoidance and mitigation measures are significantly violated.
- Biological monitors or project environmental representative shall notify the BLM and USFWS before, or as soon as possible after biological compliance measures are significantly violated.
- At least one biological monitor shall accompany vibroseis and shot hole crews while working within endangered species habitat.
- Project biologists shall keep an accurate running tally of the number of dens and burrows damaged, destroyed, or otherwise affected by project activities. Such tallies shall be combined and totaled at the end of each workday to determine proximity to take limits and the need for subsequent project modifications to prevent impacts upon dens and burrows in excess of take limits. Total number of dens and burrows affected by the project shall be reported in the post-activity compliance report.
- One biologist exclusive of biologists observing vibrator crew activities shall oversee activities of receiver line deployment crews where cross country vehicle travel occurs in listed species habitat.
- Pets shall not be permitted on the project site during project activities.
- All food-related trash such as wrappers, cans, bottles, and food scraps shall be disposed of in closed containers only and regularly removed from the project site.
- Although highly unlikely to occur, all spills of hazardous materials within endangered species habitats shall be cleaned up immediately according to applicable federal, state, and local laws and regulations.
- Daily preparation and end of day maintenance will be conducted no earlier than two hours before sunrise and not later than two hours after sunset. These activities include refueling of

vibroseis and other project related vehicles, moving some vehicles to staging areas, etc. These activities, however, will not include significant vehicle travel in listed species habitat. No off-road vehicle travel shall be conducted within sensitive species habitat until there is sufficient natural light for resource avoidance.

- All project-related vehicles shall observe a speed limit of 10 mph or less on all routes that traverse endangered species habitat, except on State and County highways and roads.
- To prevent the inadvertent entrapment of covered vertebrates, all project-related open steep-walled holes, or trenches more than 2 feet deep shall be covered at the close of each working day by plywood or similar materials, or provided with one or more escape ramps constructed of earth fill or wooden planks. Before such holes or trenches are filled, they should be thoroughly inspected for trapped animals. If at any time a trapped or injured kit fox is discovered, procedures listed above must be followed.
- If during any phase of the seismic operation any oil or other pollutant shall be discharged from project related vehicles, or from containers impacting federal lands, the control, cleanup, and disposal of such oil or other pollutant, wherever found, shall be the responsibility of the permit holder, regardless of fault. Upon failure of permit holder to control, cleanup or dispose of such discharge on or affecting federal lands, or to repair all damages to federal lands resulting from, the authorized officer may take such measures as he/she deems necessary to control and cleanup the discharge and restore the area, including, where appropriate, the aquatic environment and fish and wildlife habitats, at the full expense of the permit holder. Such action by the authorized officer shall not relieve the permit holder of any liability or responsibility.

Vegetation and Habitat Types

Project related vehicles should be restricted to approved travel routes and paths/roads. Large shrubs shall be avoided in an effort to minimize impact on wildlife habitat. Large shrubs shall be avoided by carefully selecting travel paths/roads to avoid crushing individuals. In addition, washes represent a fragile habitat type and function as seasonally productive sources of annual vegetation for animals, as dispersal corridors, and as areas affording favorable burrow construction habitat. Washes shall be avoided by all vehicular activity as feasible.

Post-Project Reporting

Within 45 calendar days after completion of the project, the seismic contractor shall submit to the USFWS and BLM a post-activity compliance report that details the following information:

- Dates that seismic testing occurred:
- Pertinent data concerning the seismic contractor's success in meeting project mitigation measures.
- Known project effects on San Joaquin kit foxes, blunt-nosed leopard lizards, giant kangaroo rats and San Joaquin antelope squirrels, if any (including specific number of dens and small mammal burrows damaged or destroyed).

- Occurrences of incidental take of state or federally listed species.
- An assessment of the extent and severity of project impacts on all sensitive wildlife habitats, a summary of rehabilitation plans, if any; and other pertinent information.

BLM, USFWS and CDFG shall be notified in writing within three (3) working days in the event of an accident death or injury of a San Joaquin kit fox, giant kangaroo rat, or blunt-nosed leopard lizard, or of the finding of any dead or injured kit fox, giant kangaroo rat, or leopard lizard during the proposed seismic survey. Notification shall include the date, time, and location of the incident or of the finding of a dead or injured animal, and any other pertinent information. The USFWS contact for this information is the Chief of the Division of Endangered Species, Sacramento Field Office, 3310 El Camino Avenue, Suite 130, Sacramento, CA 95821-6340, (916) 979-2725. The CDFG contact information is the California Department of Fish and Game, Fresno Regional Headquarters, Environmental USFWSs Division, 1234 E. Shaw Ave., Fresno, CA (559) 243-4014. Any dead or injured kit fox, giant kangaroo rat, or blunt-nosed leopard lizard shall be turned over to the California Department of Fish and Game.

L.8 VISUAL RESOURCES

Visual Resource BMPs provide a variety of tools to address the visual impacts of projects on the landscape. They are applied to reduce or eliminate visual contrast in order to maintain or achieve Visual Resource Management (VRM) objectives. BMPs for visual resources include a variety of techniques from proper site selection for projects, to minimizing long-term surface disturbance and correct color selection for painting structures. No all techniques are appropriate for all locations and would be implemented as appropriate. As with all BMPs the science and technology; specifically camouflaging techniques, behind the management is continually evolving as such new BMPs are developed and replace other concepts. More information on BMPs for visual resource management can be found in several BLM publications and websites including the 2007 Visual Resource Management for Fluid Minerals self study guide found at http://www.blm.gov/wo/st/en/prog/energy/oil_and_gas/best_management_practices/technical_information.html.

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APPENDIX M

APPENDIX M – REASONABLY FORESEEABLE DEVELOPMENT SCENARIO
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M.1 INTRODUCTION

As part of the Bakersfield FO RMP process, reasonably foreseeable development (RFD) scenarios for minerals and renewable energy were developed to aid in assessing the potential consequences of the alternatives. An RFD is a forecast or estimate of activity that is likely to occur. The goal is to give scope or scale to the potential consequences of new activities and their associated impacts on the environment. The RFD is not meant to predict actual activities but to be a basis for quantifying environmental effects from a range of development scenarios.

The RFD projection is based on knowledge of past use, the capability of the resource for additional development, local and regional economic trends, and the needs of the public. The data presented in an RFD is deliberately general for ease in assessment. Specific locations of surface-disturbing activities, such as road or oil well developments, are not indicated. The period covered by this RFD is ten to fifteen years.

Regulations in the 1987 Onshore Oil and Gas Leasing Reform Act require such a projection to be formulated to facilitate development of federal lands that are not otherwise constrained by existing land allocations, such as wilderness areas and mineral withdrawals.

Typical resources that would be evaluated with an RFD format are oil and gas, hard rock mining, livestock grazing, improvements (such as rights-of-way), and recreation. The information presented here for oil and gas, hard rock mining, geothermal leasing, and renewable energy development is a summary of potential projected activity.

Minerals management programs with the Bakersfield FO primarily involve oil and gas leasing, solid leasable minerals (phosphates, salines), locatable minerals (metals, gypsum), and salable minerals (sand, gravel, clay, and decorative rock). The federal mineral estate addressed by the Bakersfield RMP totals 1,162,210 acres for fluid minerals, 1,046,530 acres for solid leasable minerals, and 1,046,290 acres for locatable and salable minerals.

M.2 MINERAL LEASING

Federal leasable minerals are classified as fluid minerals or solid leasable minerals. Either kind of mineral can be developed after obtaining a lease from the BLM. Leasable fluid minerals include oil, gas, geothermal resources, and carbon dioxide. Leasable solid minerals include coal, potash, sulfur, and sodium. Just less than 150,850 acres or 13 percent of the federal mineral estate within the Bakersfield FO is closed to oil and gas leasing and 228,840 acres or 22 percent are closed to solid leasable mineral leases.

M.2.1 FLUID MINERALS

Oil and Gas Resources

The RFD for oil and gas is a projection of the exploration, drilling, and production activity that is likely to occur in the next 10 to 15 years.

Between 100 and 400 federal wells are forecast to be drilled on federal mineral estate per year. Although the average was 191 wells per year during the last decade, 363 drilling permits were issued in FY 2010. The higher stabilized prices may result in increased drilling in areas that were previously marginal, such as deep fractured shale and shallow diatomite zones. New surface disturbance associated with exploration and development is estimated to involve between 100 and 265 acres per year. This includes roads, pads, facilities, pipelines, power lines, and all other associated activities except for running seismic lines, and includes both short-term and long-term impacts. Approximately 25 to 35 percent of the surface disturbance would be short term and would be reclaimed within two to three years.

A recent analysis of seismic projects approved over the past decade showed that there were approximately 1.5-4 acres of disturbance per square mile of seismic lines run, and virtually all of that would be transient or temporary. For the maximum expected 1000 square miles of 3-D seismic over the life of this plan, that would result in approximately 4000 acres of disturbance. Additional actions resulting in temporary effects include the drilling of unsuccessful wells. Long-term disturbance may not be reclaimed in two to three years and perhaps not during the plan life. Successful drilling and the related production facilities, roads, and some seismic exploration create long-term effects. The positive impact of separating the two categories of surface-disturbance is that the brief surface effects of drilling an unsuccessful well and the minimal effects from most geophysical activity can be quantified, while long-term effects, such as a producing oil field and its processing facilities, can be realistically examined. Up to 100 acres of inactive wells, roads, pads, and other disturbed areas would be reclaimed annually. In addition, current best management practices are resulting in land being reclaimed in the interim before the leases and fields are abandoned.

The past 10 to 15 years have seen both historic lows and historic highs in both oil prices and drilling. Between late 1998 and mid-2008, oil prices for the Midway Sunset field, which produces the largest volume of federal crude in California, rose from $6 per barrel to $120 per barrel, a 20-fold increase. However, U.S. and world economic conditions have significantly deteriorated since then, and Midway Sunset crude was down to approximately $25 per barrel in late 2009. As of February 2010, the price had risen back to $69 per barrel, by mid-January 2011, to $86.25, and by mid-March 2011, to nearly $110 per barrel, further demonstrating the volatility of crude prices. Consequently, there is no consensus among forecasters as to what the demand for oil will be in either the near term or long term. Most current forecasts are for demand to continue to drop in the near term to midterm and to remain depressed into the foreseeable future.

Between approximately 80 and 90 percent of all surface-disturbing activities related to the oil industry would occur in the San Joaquin Valley portion of the Planning Area. In fact, during the last 10+ years, more than 95% of all federal drilling has occurred in this area. Most of this would be within the established boundaries of producing fields in Kern County, and the vast majority would be on lands that are already leased (not on new leases issued subsequent to this RMP). Surface disturbance from drilling new wells accounts for about 65 percent of the long-term surface disturbance. Associated activities such as new processing facilities, roads, pipelines, and seismic surveys account for the rest of the disturbance.

No significant new fields have been discovered in the Bakersfield FO decision area in the last twenty years. The discoveries were all in the San Joaquin Valley portion of the Planning Area, and none contained lands with any federal interest. There is virtually no correlation between oil prices and federal wells drilled; in fact, the record high for wells drilled in a year (428) occurred in 1998, the same year that recorded the lowest average oil price, $8.46 per barrel. The reason is most likely because development of federal leases is so heavily concentrated in a very few areas that are somewhat insulated from short-term swings in prices. Consequently, current activity levels are not expected to be significantly different from what has occurred in the past. Additions of new reserves are expected to continue the decline begun in 1990 in all management areas. Other factors unique to California sometimes further depress oil prices and discourage new drilling, such as a severe shortage of rigs during the early 2000s.

The geologic basins of the Coast Range and coastal areas are mature oil-producing basins (the onshore portions of the Santa Maria and Ventura basins), meaning that most of the obvious and the more obscure structural oil prospects have been drilled. Further depressing drilling on the coast is the relatively high cost of exploration, compared to other parts of the state. Higher drilling and completion costs are the result of surface restrictions, rough terrain, and well depths. Although industry interest in leasing newly available lands is likely, new exploration projects that result in actual drilling are likely to continue to be rare.

Similarly, the oilfields in the San Joaquin Valley are among the oldest in the world, several of them having been discovered well over 100 years ago; consequently, most of the activity continues to be within existing fields.

Although projections were made on a field-by-field basis, the numbers contained in the RFD are meant to be used as averages during the life of the plan. Some fields may have fewer or more wells drilled than projected, and some years may see very high or very low numbers for overall activity. Because oil and gas are worldwide commodities, events that occur globally may have significant effects on US production. The political instability of other nations that have most of the world's reserves changes regularly, causing difficulty in forecasting worldwide levels of petroleum supply and demand. In addition, the US and worldwide economic conditions have changed dramatically within the last couple of years, causing further uncertainty.

Two other sources of data may be of interest to the reader, although they are not specific to federal land. The U. S. Geological survey produced an oil and gas development forecast in 2007 titled "Petroleum Systems and Geologic Assessment of Oil and Gas in the San Joaquin Basin Province, California." This report was published as U.S. Geological Survey Professional Paper 1713. Another document is the National Oil and Gas Assessment Inventory, accessible at: http://energy.cr.usgs.gov/oilgas/noga/.

Additional details (number and status of wells, production) on a county by county basis for the entire state are found in the figure below that includes all of the wells in the state, both federal and private.

PRODUCING WELLS AND PRODUCTION OF OIL, GAS, AND WATER BY COUNTY - 2008*

COUNTY NAME	NUMBER OF WELLS				OIL PRODUCTION (bbl)	NET GAS PRODUCTION (Mcf)			WATER PRODUCTION (bbl)
	OIL		GAS			ASSOCIATED (from oil zones)	NONASSOCIATED (from gas zones)	TOTAL	
	PROD	SHTN	PROD	SHTN					
Alameda	6	1	0	0	18,454	0	0	0	43,412
Butte	0	0	8	3	0	0	59,848	59,848	112
Colusa	0	0	248	85	0	0	10,887,536	10,887,536	142,001
Contra Costa	0	0	24	19	a/ 0	0	1,578,456	1,578,456	51,292
Fresno	2,008	1,347	4	1	b/ 6,269,839	819,930	108,474	928,404	84,461,341
Glenn	0	0	234	57	0	0	9,502,588	9,502,588	94,462
Humboldt	0	3	36	16	0	0	1,023,678	1,023,678	10,688
Kern	42,065	13,808	194	110	c/ 162,206,386	149,662,564	4,794,400	154,456,964	1,448,411,573
Kings	168	159	0	2	111,793	60,981	0	60,981	178,167
Lassen	0	0	0	6	0	0	0	0	0
Los Angeles	3,427	1,419	11	19	d/ 25,874,776	11,745,183	300,984	12,046,167	750,099,319
Madera	0	0	17	19	0	0	2,552,570	2,552,570	5,571
Merced	0	0	2	1	0	0	71,318	71,318	336
Monterey	487	678	0	0	4,315,085	723,501	0	723,501	104,377,904
Orange	1,078	571	0	0	4,704,930	2,200,510	0	2,200,510	70,376,290
Riverside	0	3	0	1	0	0	0	0	0
Sacramento	0	0	151	67	e/ 0	0	16,921,988	16,921,988	515,020
San Benito	23	15	2	5	7,142	2,033	26,526	28,559	258,958
San Bernardino	8	30	0	0	2,904	60	0	60	934
San Joaquin	0	0	71	86	0	0	6,780,756	6,780,756	291,998
San Luis Obispo	156	162	0	0	525,047	158,168	0	158,168	7,499,609
San Mateo	13	12	0	0	3,704	0	0	0	13,404
Santa Barbara	861	1,256	1	3	f/ 3,009,057	2,581,586	3,153	2,584,739	70,587,676
Santa Clara	11	2	0	0	28,214	5,775	0	5,775	13,587
Solano	0	0	172	107	g/ 0	0	14,614,956	14,614,956	328,858
Stanislaus	0	0	2	0	0	0	354,050	354,050	0
Sutter	0	0	274	98	h/ 0	0	13,683,634	13,683,634	137,659
Tehama	0	0	136	29	0	0	3,394,685	3,394,685	111,574
Tulare	72	9	0	13	51,502	56	0	56	3,440,079
Ventura	1,761	1,293	0	6	7,466,152	7,626,361	0	7,626,361	50,784,784
Yolo	0	0	50	42	i/ 0	0	3,196,124	3,196,124	187,923
Yuba	0	0	1	0			2,449	2,449	0
STATE TOTALS	52,144	20,768	1,638	795	214,594,985	175,586,708	89,858,173	265,444,881	2,592,424,531

Figure M-1. Producing Wells and Production of Oil, Gas, and Water by County - 2008

Coast

Although there are many oil and gas fields with billions of barrels of oil and trillions of cubic feet of gas production and reserves, there is very little federal mineral estate in the area. Only the Sespe oilfield within the boundaries of Los Padres National Forest contains any significant amount of federal mineral estate, and nearly that entire oilfield is covered under the 2005 Los Padres Oil RMP/EIS. Consequently, very little activity has occurred or is expected to occur on BLM-administered lands within this area.

San Joaquin Valley

Between 2003 and 2007, nearly 90 percent of the wells drilled in California were drilled on lands within the RMP planning area. On federal lands, virtually 100 percent of all federal wells drilled within the past 14 years were drilled in the San Joaquin Valley. Within the RMP decision area, most of the oil and gas activities are projected to occur within the San Joaquin Valley. Most federal drilling occurs on a relatively few leases, most of which are operated by a handful of operators.

Sierra Nevada Range

The Sierra Nevada Range portion of the Planning Area has little or no potential for the accumulation of hydrocarbons.

Ongoing reviews of the monthly activity in the Bakersfield FO suggest that the activity levels within existing fields may stabilize at current levels. More specifically, federal oil activity would continue to be focused in the Midway-Sunset and Lost Hills Fields in the San Joaquin Valley.

Geothermal Resources

In December 2008, the BLM issued a Record of Decision (ROD) for the Programmatic Environmental Impact Statement (PEIS) for Geothermal Leasing in the Western United States. This ROD documented the BLM's decision to facilitate geothermal leasing of the federal mineral estate in Alaska, Arizona, California, Colorado, Idaho, Montana, Nevada, New Mexico, Oregon, Utah, Washington, and Wyoming. This decision allocated BLM lands as open to be considered for geothermal leasing or closed to geothermal leasing. The ROD adopted stipulations, best management practices, and procedures for geothermal leasing and development and stated that these actions would be implemented through BLM resource management plans.

Although most of the lands within the decision area are open to geothermal leasing and development, all Areas of Critical Environmental Concern (ACECs) were closed to geothermal leasing in the ROD for the nationwide EIS.

Within the Planning Area Kernville Hot Springs near Lake Isabella has high potential for the development of geothermal resources. This area of high potential extends south and west to Democrat Hot Springs, within the boundary of lands managed by the US Forest Service. Within the Sierra Nevada, a broad area of moderate potential surrounds Lake Isabella, extending from California Hot Springs on the northwest to Walker Pass on the southeast. Furthermore, an area extending from Springville on the west nearly to Coso Hot Springs on the east also has moderate potential. In the Transverse Range, an area with several hot springs, extending west from Sespe Hot Springs for over thirty miles, has moderate potential.

Within the RMP decision area, there are currently no federal geothermal leases. There has historically been little interest in geothermal development in the decision area. Therefore, based on the RFD in the PEIS it is projected that no direct use or indirect use geothermal development will occur on public lands within the Planning Area over the next 10 years.

M.2.2 Solid Leasable Minerals

The solid leasable mineral resources in the Bakersfield FO planning area mostly consist of phosphate and saline (salt) materials. Within the Bakersfield FO, about 35,084 acres of BLM-administered public mineral estate is classified as prospectively valuable for these minerals.

In the decision area, there are 35,084 acres of land with potential for solid leasable mineral development. Of these, 493 acres of the potential area is currently closed to development.

Saline and Phosphate Minerals

The BLM has classified several areas as prospectively valuable for phosphates within the Transverse Ranges and the southern Coast Ranges. A few of these areas have small tracts of BLM-managed public lands within them, although two areas have significant acreages of BLM-managed public land: San Luis Obispo County, from just east of Creston to just south of State Highway 58 at San Juan Creek, west of US Highway 101 from Atascadero north to Adelaida, and at the southern end of Morales Canyon northwest of New Cuyama; Kern County, on the east side of the Temblor Range from just south of McKittrick Summit north to State Highway 46. Over the past 20 years, there have been about a dozen phosphate prospecting permits or leases within the Bakersfield FO, most of which have been on lands administered by the US Forest Service. All of these permits are either dormant or expired.

Saline minerals have been produced from Soda Lake in the Carrizo Plain, Lockwood Valley near Mount Pinos, and Proctor Dry Lake near Tehachapi. Soda Lake, which is outside of the decision area for this RMP, was mined from the 1880s until about the 1920s for salt and sodium sulfate. Borate minerals were mined within the boundary of Los Padres National Forest in the Lockwood Valley early in the 1900s, and salt was produced from Proctor Lake. The BLM has classified all three areas as prospectively valuable for sodium and potassium.

In the past, phosphate and saline developments have impacted between 20 and 40 acres. Any future development of these resources would likely impact between 10 and 80 acres per project. Only one such project is considered likely to occur in the next 20 years.

Other Solid Leasable Minerals

On average, the Bakersfield FO receives one proposal for mining solid leasable minerals (other than saline or phosphates) every couple of years. Each of these proposals would typically impact up to 20 acres. Over the next 20 years, there may be as many as five mining plans for solid leasable minerals. The total projected surface disturbances from these projects after reclamation would be 130 acres.

M.3 Locatable Minerals

Locatable minerals are those for which the right to explore, develop, and extract mineral resources on federal lands open to mineral entry is established by the location (or staking) of lode or placer mining claims as authorized under the General Mining Law of 1872. Mining is also regulated under

40 CFR 3802, Exploration and Mining, Wilderness Review Program, 40 CFR 3809, Surface Management, and 43 CFR 6304, Uses Addressed in Special Provisions of the Wilderness Act, and other applicable federal regulations. Locatable minerals are part of the federal mineral estate on split-estate lands, with private surface patented under the Stock Raising Homestead Act. In these ranching patents, the surface became private, but the Federal Government retained the minerals. Mining claims can be staked on SRH Lands. Regulations for staking mining claims on private lands are contained in 43 CFR, 3838.

Because of the variety of potentially locatable minerals, there is not a definitive list of locatable minerals. The 1872 Mining Law itself mentions only those metallic minerals known to be valuable at the time. As a result of various court decisions and new laws over the years, other minerals, including some nonmetallic minerals, have been added (such as materials use in the production of kitty litter, or pumice that breaks naturally into dimensions of 3 inches or greater). Some minerals are considered locatable only if they are "unique" and have a "distinct and special value." The BLM has to make such a determination on a case-by-case basis. In general, metallic minerals are locatable.

Historically, locatable minerals mined within the Bakersfield FO are gold, silver, copper, lead, zinc, tungsten, mercury, chromite, manganese, antimony, and uranium. Nonmetallic minerals mined are diatomaceous shale, diatomite, limestone, pumice, fuller's earth, barite, magnesite, and feldspar, Limited noncommercial amounts of gemstones (including rare varieties of agate) and gem minerals may be collected for free. Commercial collection is normally done under a mining claim. Uncommon varieties of agate and gemstones do occur within the Bakersfield FO.

There are 257,690 acres in the Bakersfield Decision Area with potential for locatable mineral development; however, there are approximately 21,000 acres with potential are currently withdrawn from entry under the mining law.

Areas of Disturbance for Locatable Minerals

Because the area needed for each mine depends on the mineral deposit and the economics and regulations affecting the mining methods, there are no typical amounts of disturbance support facilities that can be readily predicted. However, historically, most exploration programs for locatable minerals have caused less than five acres of surface disturbance, while most development projects have caused 10 to 80 acres of disturbance. If fewer than five acres of surface disturbance are proposed, a notice must be submitted to the BLM before disturbing the surface. If more than five acres of surface disturbance are proposed or if the proposed operation is within an ACEC, federal regulations require that a plan of operations and a reclamation plan be submitted and that an environmental assessment or EIS be prepared.

Typically, the Bakersfield FO receives up to three mining notices each year, averaging two acres. It receives up to one plan of operations each year that would impact an average of 10 acres. Over the next 20 years, there may be as many as 60 mining notices and 10 plans of operation. Total projected surface disturbances, after reclamation would be 230 acres.

M.4 SALABLE MINERALS

The BLM defines common varieties of sand, gravel, stone, pumice, pumicite, cinders, and ordinary clay as salable, not locatable (BLM 2004a). Salable minerals include materials used for building and construction, both commercially and privately. Sand, gravel, aggregate, lime (limestone), cinders, and building stone are the more common salable minerals. Use of salable minerals from public lands requires either a sales contract or a free use permit from the Bakersfield FO. The contract or permit may have stipulations on multiple land use. Disposals of salable minerals from public lands are regulated by 43 CFR, Part 3600.

Geology determines the location and character of the sand and gravel deposits from which aggregate is obtained. The most easily accessible sources of high quality aggregate are in and along modern river channels, floodplains, mill sites, and tunnel sites. Other suitable resources may be obtained from terrace deposits along modern river channels or from older channel or floodplain deposits that are buried beneath the present land surface. Extensive deposits of Pleistocene sand deposits east of Lake Isabella and in the San Joaquin Valley have good potential for use as fill. Recent alluvium within active riverbeds is mined for sand and gravel in many places on private lands.

There is an increasing demand for crushed stone produced from the mining, crushing, and sizing of granitic and volcanic rocks. Crushed stone is now being produced from several companies in the Sierra Nevada and Coast Range. They make up a widespread resource for mineral material development on BLM lands throughout the Bakersfield FO.

Salable minerals are expected to continue being mined within the Bakersfield FO. The demand for salable mineral resources is a function of market preferences and construction activity and depends on where the construction is taking place. Transportation costs for sand and gravel aggregate can be minimized by using a salable mineral source close to a construction site. It is likely that construction project managers will prefer using mineralized areas close to public roads.

Typically, the Bakersfield FO receives 10 to 20 requests for mineral materials from the Kelso Community pit each year. County governments and mineral material contractors are asking the BLM to establish new community pits on the west side of Kern County, in western Fresno County, and near the town of Coarsegold in Madera County. The Bakersfield FO will likely receive up to 15 permits for material sales from the Kelso pit each year for the next 20 years. This will cause no additional surface disturbance than what has already been authorized for this pit. Over the next 20 years, three new community pits are projected to be established, and there will likely be 10 new negotiated sales. Each of these projects would disturb up to 20 acres each, for a total projected disturbance of 200 acres

In the decision area, there are 51,275 acres of land with potential for salable mineral development. Of these, 7,594 acres or 15% of the potential area is closed to development.

M.5 RENEWABLE ENERGY

Renewable energy includes solar power, wind, and biomass resources. As demand has increased for clean and viable energy to power the nation, consideration of renewable energy sources available on public lands has come to the forefront of land management planning.

In cooperation with the National Renewable Energy Laboratory, the BLM assessed renewable energy resources on public lands in the western United States (BLM and DOE 2003). The BLM reviewed the potential for concentrated solar power (CSP), photovoltaics (PV), wind, biomass, and geothermal energy on US Department of the Interior, Bureau of Indian Affairs, and Forest Service lands in the West. (Hydropower was not addressed.) While geothermal is a renewable energy source, it is considered a fluid leasable mineral and, therefore, is covered under Section G.6 above.

M.5.1 SOLAR

Resource Potential

The planning area did not rank among the top 25 BLM planning areas in the US having the highest CSP or PV potential. An area was considered to have high potential if it met the following criteria (BLM and DOE 2003):

- A minimum direct solar resource of six kilowatt-hours or greater per square meter per day ($kWh/m^2/day$);
- Terrain slope of less than or equal to five percent for CSP or one percent for PV;
- Within 50 miles of transmission 115-345 kV;
- Within 50 miles of major road or railroad;
- Minimum parcel size of 40 contiguous acres;
- Department of the Interior Bureau of Indian Affairs, BLM, or USDA Forest Service lands; and
- BLM and USDA Forest Service compatible land use.

Approximately 40 percent of the planning area met the solar resource criterion of six $kWh/m^2/day$. The terrain criterion was met throughout most of the Valley Planning Unit, sporadically within the Coast Planning Unit, and rarely within the Sierra Planning Unit. The entire planning area met the criteria for proximity to roads, railroads, and transmission lines. Most public lands within the Bakersfield FO are at least 40 contiguous acres in size (BLM and DOE 2003).

Public lands meeting the CSP and PV potential criteria have been identified within the Valley Planning Unit in the area to the northeast of the Carrizo Plain National Monument and near the town of South Lake near Lake Isabella in the southern portion of the Sierra Planning Unit near Highway 178 (BLM and DOE 2003). The lands near Lake Isabella have slopes of around five percent and would therefore be suitable only for CSP development.

While renewable energy potential has been identified in other portions of the Bakersfield FO with lands with high solar potential (Western Governor's Association and Department of Energy 2009), the rugged landscape and steep slopes preclude the development of solar energy with existing technologies. No other solar resources were identified within the Bakersfield FO.

Existing Activity

The Bakersfield FO has never had any solar installation projects on public land.

There is one pending solar right-of-way (ROW) application, CACA 51812, involving 1509 acres within the Atwell Island management area.

Two new solar ROW applications were recently received. CACA 52471 involves an isolated 160 acre parcel of BLM managed lands near Duck Pond. CACA 52473 involves an isolated 80 acre parcel near Lost Hills.

Reasonably Foreseeable Development Scenario

While most BLM parcels available for development are not large enough for commercial scale development on their own, there is the potential for projects occurring on adjacent private parcels to be partially located on BLM lands. The Bakersfield FO is expected to contain up to two CSP projects and up to five PV projects over the long term, given existing land allocations. The most likely sites for industrial scale CSP or PV projects to be solely located on BLM-administered land are just south of Lake Isabella and within the Atwell Island management area. Other solar projects may occur on smaller parcels if they are part of projects occurring on adjacent lands not administered by the BLM.

M.5.2 WIND

Resource Potential

Wind power classes range from 1 (lowest) to 7 (highest). Public lands in portions of the planning area are Class 3 and higher, although the planning area is not in the top 25 BLM planning units in the US having the highest wind energy potential (Class 5 and higher) (BLM and DOE 2003). The Bakersfield FO is calculated to have approximately 8,790 acres of BLM managed lands with a wind potential of class 4 or higher (Tetra Tech 2009).

The PEIS on Wind Energy Development on BLM-Administered Lands in the Western United States (BLM 2004b) categorizes public lands as having a low, medium, or high potential for wind energy development from 2005 through 2025, on the basis of their wind power classification. Wind resources in Class 3 and higher could be developed economically with current technology over the next 20 years. Class 3 resources have medium potential; resources in Classes 4 and higher have high potential. The PEIS identifies public land parcels with medium or high wind resource potential that

might be developed economically with current technology. These areas are concentrated along ridgetops in the following areas:

- Tehachapi mountains and Lake Isabella
- North of Fillmore and Piru

Around Orchard Peak, east of Cholame, between State Routes 41 and 46.

The January 2009 Draft Map of the Western Renewable Energy Zones, a joint initiative of the Western Governors' Association and the US Department of Energy, identified the following areas as having wind potential (Western Governor's Association and Department of Energy 2009):

- The Tehachapi Mountain Range, extending from Frazier Park in the south to just south of Piute Peak in the north, with wind power classes ranging from 3 through 7;
- An area centered on Simi Valley, extending north to Fillmore, south to Thousand Oaks, west to Santa Paula, and east to San Fernando, with wind power classes ranging from 3 through 6;
- Scattered parcels across the mountain range bounded by Lompoc to the northwest, Solvang to the northeast, and the Pacific Ocean to the south, with wind power classes ranging from 3 through 7; and
- Scattered parcels in the coastal range from Nipomo in the south to Cambria in the north, with wind classes ranging from 3 through 6.

Existing Activity

There are currently no wind projects administered by the Field Office within the planning area.

In the past several years several ROW applications have been received for the following areas: east of Cholame, within the Temblor Range, near Lake Isabella, and within the Tehachapi Mountains. Most of these were dropped by the applicants.

Four ROW applications for wind development are currently pending. CACA 49112 involves 8592 acres in the Tehachapi Mountains. Three new applications were received by the Field Office in January 2011. These applications have not been assigned a Serial Register Number and the applications have not been fully evaluated.

Reasonably Foreseeable Development Scenario

Wind energy is expected to be developed within the Temblor Range, in the mountains near Fillmore in Ventura County, southwest of Lake Isabella, and within the Tehachapi Mountains over the long term. Other wind projects could occur in the future along the scattered parcels of public land that coincide with mountain peaks and ridges

M.5.3 BIOMASS

Resource Potential

Biomass resources include the use of biological materials such as sawdust or yard clippings directly as fuel, and the conversion of biological materials into usable fuel such as alcohol. The BLM/National Renewable Energy Laboratory study evaluated the long-term sustainability to support biomass plants using the monthly Normalized Difference Vegetation Index (NDVI) computed from the National Aeronautics and Space Administration's (NASA) Advanced Very High Resolution Radiometer Land Pathfinder satellite program. The Bakersfield FO is not in the top 25 BLM planning areas having the highest potential for biomass resources. For an area to have biomass development potential, it would have had to meet the following criteria (BLM and DOE 2003):

- An NDVI of 0.4 for at least four months between April and September;
- A slope of less than 12 percent;
- No more than 50 miles from a town with at least 100 people; and
- BLM- and USFS-compatible land use.

Nearly all of the public lands within the Bakersfield FO are identified as meeting the criteria for having biomass potential.

Scattered parcels of high biomass potential lands occur throughout the Planning Area. The areas of highest concentration are at the following locations:

- Immediately south of State Route 58 approximately five miles east of Highway 101 and approximately 12 miles from the city of San Luis Obispo;
- Approximately 2.5 miles north of State Route 46 and 15 miles west of Highway 101;
- In Kern County, approximately three miles east of State Route 33 and four miles south of the Maricopa Highway (State Routes 33/166);
- In Santa Barbara County, half a mile west of State Route 33 (Maricopa Highway) around the unincorporated town of Ventucopa in the Cuyama Valley;
- Several remote areas throughout the Tehachapi Mountains, ranging from 10 to 12 miles north and northeast of State Route 58; and
- Multiple areas around all sides of Lake Isabella close to State Routes 178 and 155, Wofford Boulevard/Burlando Road, and Sierra Way.

Existing Activity

There are no current or historical biomass energy facilities on any public lands within the Bakersfield FO, nor has the Bakersfield FO received any ROW applications for such facilities.

Reasonably Foreseeable Development Scenario

There is potential for biomass energy development in planning area over the long term. Unlike wind and solar resources, the location of a biomass facility does not correlate with the amount of production of biomass that local lands provide. Feedstock, which is the raw material used to fuel biomass, such as woody debris from forests and agricultural wastes from farm lands, needs to be transported to a biomass facility, so having such sources present at the regional level is sufficient. Both the Coastal and Sierra areas have high biomass yielding lands due to the forests in these areas, and the San Joaquin Valley contains vast amounts of high biomass-yielding lands due to the intensity of agricultural production. It is desirable to shorten the distance that a feedstock must be transported to a biomass facility; nevertheless, the entire planning area has so much biomass feedstock on public lands that the question of where to locate a biomass plant in the Bakersfield FO hinges more on the site's suitability for the construction of a facility than on the productivity of the site. Given this, it is likely that biomass facilities would be located on private lands and that public lands would be used only as a source for biomass fuel.

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APPENDIX N

APPENDIX N – SUPPLEMENTARY RULES
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N.1 INTRODUCTION

The focus of a Resource Management Plan (RMP) is to guide the management of resources, both protection and utilization, and to address issues related to public health and safety. Throughout the RMP, decisions concerning restrictions, prohibitions, and allowable uses are presented to address identified issues or achieve management goals and objectives. In order for these decisions to be effectively put into practice, enforcement is often needed, first to ensure the management decision is properly understood and followed and second to provide for civil and criminal penalties should these restrictions and prohibitions not be followed.

Although many of management decisions can be implemented through existing laws and regulations, often, unique and site-specific restrictions and prohibitions need to be clearly spelled out for ease of understanding and clarity. The BLM's tools to achieve this are closure and restriction orders, supplementary rules, and special rules.

N.2 HOW TO READ AND USE THIS DOCUMENT

This document addresses the process by which the supplementary rules will be enacted, including public involvement opportunities and the proposed supplementary rules themselves as they pertain to the preferred alternative (Alternative B). Similar rules would be implemented under other alternatives, although the size, scope, and levels of restriction would change. These supplementary rules for the other alternatives are not presented, so as to not confuse or reduce the clarity of the proposed special rules.

N.3 SUMMARY

The proposed supplementary rules include all closure and restriction orders, special rules, and supplementary rules presented throughout Alternative B. This includes 41 rules, divided into nine subsections for ease of understanding, implementation, and enforcement. The justification and reasoning behind each restriction or prohibition is presented throughout the RMP in Chapter 2, Alternatives, Chapter 3, Affected Environment, and Chapter 4, Environmental Consequences.

N.4 AUTHORITY

The regulations that allow for the creation and enforcement of closure and restriction orders, supplementary rules, and special rules are issued in the Code of Federal Regulations (CFR), 43 CFR, under the provisions of the following:

- Federal Land Policy and Management Act of 1976 (43 USC, 1701 et seq.);
- Sikes Act (16 USC, 670g);
- Taylor Grazing Act (43 USC, 315a);

- Wild and Scenic Rivers Act (16 USC, 1281c);
- Act of September 18, 1960, as amended (16 USC, 877 et seq.);
- Land and Water Conservation Fund Act (16 USC, 460l-6a); and
- National Trails System Act (16 USC, 1241 et seq.).

The authority is specifically given in the following regulations:

- Supplemental Rules (43 CFR, 8365.1-6);
- Closure and Restriction Orders (43 CFR, 8364.1); and
- Special Rules (43 CFR, 8341.2 and 8351.2-1).

N.5 PROCESS

The process of creating and enacting supplementary rules, closure or restriction orders, and special rules involves several steps, including creation and development of rules, public comment and feedback, and final publication.

For the purposes of this process, all existing rules affecting the Bakersfield FO planning area are assumed to be rescinded and replaced. This resolves several issues that have developed over the years, including boundary changes, acquired lands, and obsolete rules. In addition, presenting all the rules, updated and rewritten in a consistent manner, aids in understanding and ability to enforce.

N.6 RULE CREATION

The process of creating supplementary rules begins with the management actions presented in Chapter 2, Alternatives of the RMP. These decisions essentially create restrictions and prohibitions that need to be backed with written rules to ensure they are fully understood and enforceable.

In many cases the process of creating rules is intuitive, e.g., a restriction on access to a specific area for protection of a resource result in a rule stating access to that area is prohibited; as such, the justification behind the rules is self explanatory.

In some cases the proposed rules respond to specific identified issues, which may or may not be directly addressed in the RMP, but respond to an existing need. For efficiency, this type of rule is included with the rules resulting from specific RMP decisions to provide a complete version of the proposed supplementary rules that would go into effect.

N.7 PUBLIC PROCESS

In order for special rules to be implemented, a public process is required to be undertaken. As outlined in 43 CFR, 8365.1-6, specific steps are taken to ensure interest groups and public lands users are adequately informed of newly proposed rules before they go into effect.

The first step of this process is the publication of a proposed set of rules and then a period for public response and comment. This appendix within the RMP and the associated notices, press releases, and public meetings serve as the opportunity for the public to review and comment on the proposed rules, along with the RMP as a whole. This appendix has also been made available as a stand-alone document at the BLM's Bakersfield Field Office and various other locations throughout the region. In addition, the RMP and this appendix are available for download on the BLM's Bakersfield FO Web site at http://www.ca.blm.gov/bakersfield.

During the public process, reviewers are encouraged to comment on several elements of the proposed rules, including consistency and clarity. Specifically as it relates to clarity, Executive Order 12866 requires each agency to write regulations that are simple and easy to understand. As such, comments on how to make these supplementary rules easier to understand are encouraged, including answers to the following questions:

- Are the requirements in the supplementary rules clearly stated?
- Do the supplementary rules contain technical language or jargon that interferes with their clarity?
- Does the format of the supplementary rules (for example, grouping and order of sections, use of headings, and paragraphing) aid or reduce their clarity?
- Would the supplementary rules be easier to understand if they were divided into more (but shorter) sections?

After public comments have been addressed and in conjunction with the Notice of Availability for the Final RMP, final supplementary rules will be made available though similar channels as the proposed rules, including press releases, publication in the *Federal Register*, the BLM's Bakersfield FO Web site and at BLM locations through which the public can receive information.

N.8 PUBLIC COMMENT PROCEDURES

Written comments on the proposed supplementary rules should be specific, should be confined to issues pertinent to the proposed supplementary rules, and should explain the reason for any recommended change. Where possible, comments should reference the specific section or paragraph of the rule that the comment is addressing. The BLM is not obligated to consider or include in the Administrative Record for the proposed supplementary rules (a) comments that the BLM receives after the close of the comment period, unless they are postmarked or electronically dated before the deadline, or (b) comments delivered to an address other than those listed.

All comments on the proposed rules should be mailed or hand-delivered to Susan Porter, Planning and Environmental Coordinator, BLM, Bakersfield Field Office, 3801 Pegasus Drive, Bakersfield, California, 93308.

Comments, including names, street addresses, and other contact information of respondents, will be available for public review at the BLM's Bakersfield Field Office, 3801 Pegasus Drive, during regular

business hours, Monday through Friday, except federal holidays. Before including your address, telephone number, e-mail address, or other personal identifying information in your comment, you should be aware that your entire comment—-including your personal identifying information—may be made publicly available at any time. While you can ask us in your comment to withhold your personal identifying information from public review, we cannot guarantee that we will be able to do so.

N.9 OTHER PROCEDURAL MATTERS

In addition the public process described, creation and enactment of additional regulations is guided by a myriad of legislation. As such, the following we're given consideration as part of the development of these proposed supplemental rules:

National Environmental Policy Act (NEPA)

These rules have been developed in conjunction with the RMP and associated EIS. The rules themselves and the actions to support and justify do not constitute a major federal action significantly affecting the quality of the human environment under Section 102(2)(C) of NEPA, 42 USC, 4332(2)(C). The public is invited to comment on the RMP, along with these rules, in accordance with the public comment procedures outlined.

Regulatory Flexibility Act

Congress enacted the Regulatory Flexibility Act (RFA) of 1980, as amended, 5 USC, 601-612, to ensure that government regulations do not unnecessarily or disproportionately burden small entities. The RFA requires a regulatory flexibility analysis if a rule would have a significant economic impact, either detrimental or beneficial, on a substantial number of small entities. These rules establish allowable, restricted and prohibited uses and rules of conduct for public use of specific public lands. Therefore, the BLM has determined under the RFA that these rules would not have a significant economic impact on a substantial number of small entities.

Small Business Regulatory Enforcement Fairness Act

These proposed supplementary rules do not constitute a "major rule," as defined at 5 USC, 804(2).

Unfunded Mandates Reform Act (2 USC, 1531 et seq.)

These proposed supplementary rules do not impose an unfunded mandate on state, local, or tribal governments or the private sector of more than $100 million per year; nor do these supplementary rules have a significant or unique effect on state, local, or tribal governments or the private sector.

Executive Order 12630, Governmental Actions and Interference with Constitutionally Protected Property Rights (Takings)

These proposed supplementary rules do not represent a government action capable of interfering with constitutionally protected property rights. The supplementary rules do not address property rights in any form and do not cause the impairment of one's property rights. Therefore, the BLM has determined that these proposed supplementary rules would not cause a "taking" of private property or require further discussion of takings implications under this Executive Order.

Executive Order 13132, Federalism

The proposed supplementary rules will not have a substantial direct effect on the states, on the relationship between the national government and the states, or on the distribution of power and responsibilities among the various levels of government. These supplementary rules do not conflict with any California state law or regulation. Therefore, in accordance with Executive Order 13132, the BLM has determined that these supplementary rules do not have sufficient Federalism implications to warrant preparation of a Federalism Assessment.

Executive Order 12988, Civil Justice Reform

Under Executive Order 12988, the BLM California State Office has determined that these proposed supplementary rules would not unduly burden the judicial system and that they meet requirements of sections 3(a) and 3(b)(2) of the Order.

Executive Order 13175, Consultation and Coordination with Indian Tribal Governments

In accordance with Executive Order 13175, the BLM has found that these proposed supplementary rules do not include policies that have tribal implications. The supplementary rules do not affect Indian resource, religious, or property rights.

Executive Order 13211, Actions Concerning Regulations That Significantly Affect Energy Supply, Distribution, or Use

These proposed supplementary rules do not comprise a significant energy action. The rules will not have an adverse effect on energy supply, production, or consumption and have no connection with energy policy.

Executive Order 13352, Facilitation of Cooperative Conservation

In accordance with Executive Order 13352, the BLM has determined that the proposed supplementary rules will not impede facilitating cooperative conservation, will take appropriate account of and consider the interests of persons with ownership or other legally recognized interests in land or other natural resources, will properly accommodate local participation in the federal decision making process, and will provide that the programs, projects, and activities are consistent

with protecting public health and safety. These rules merely establish rules of conduct for recreation on certain public lands.

Paperwork Reduction Act

These proposed supplementary rules do not contain information collection requirements that the Office of Management and Budget must approve under the Paperwork Reduction Act, 44 USC, 3501 et seq.

Information Quality Act

In developing these proposed supplementary rules, the BLM did not conduct or use a study, experiment, or survey requiring peer review under the Information Quality Act (Section 515 of Pub. L. 106-554).

N.10 PROPOSED SUPPLEMENTARY RULES

The following constitute the proposed supplementary rules, closure, and restriction orders and special rules to be enacted concurrently with the final RMP, based on selection of Alternative B (the Preferred Alternative). For clarity and ease of understanding, the rules are broken down into subsections, grouping rules relating to similar issues together. Definitions used throughout the rules are provided first.

N.10.1 DEFINITIONS

The following definitions apply to the proposed supplementary rules, unless modified within a specific part or regulation:

(a) Drug paraphernalia means equipment, products, and materials of any kind which are used, intended for use, or designed for use in planting, propagating, cultivating, growing, harvesting, manufacturing, compounding, converting, producing, preparing, testing, analyzing, packaging, repackaging, storing, containing, concealing, injecting, ingesting, inhaling or otherwise introducing into the human body a controlled substance. It includes diluting agents or substances.

(b) Motor vehicle means any vehicle that is self-propelled by a non-living power source, including a vehicle that is propelled by electric power. Exempt from this definition are motorized wheelchairs.

(c) Operator means any person who operates, drives, controls, or otherwise has charge of a mechanical mode of transportation or any other mechanical equipment.

(d) Public lands mean any lands owned by the United States and administered by the Secretary of the Interior through the Bureau of Land Management without regard to how the United States acquired ownership. This includes paved or unpaved parking lot or other paved or unpaved area where vehicles are parked or areas where the public may drive a motorized vehicle, paved or unpaved roads, roads, routes, or trails.

(e) Firearms means any weapon capable of firing a projectile, including but not limited to a rifle, shotgun, handgun, BB-gun, pellet gun, paintball gun, bow, crossbow.

(f) Sunrise to sunset means those specific times published by the US Navy Astronomical Applications Department, when the upper edge of the disk of the Sun is on the horizon, considered unobstructed relative to the location of interest.

(g) Graffiti means any unauthorized inscription, word, figure, painting or other defacement that is written, marked, etched, scratched, sprayed, drawn, painted, or engraved on or otherwise affixed to any surface by any graffiti implement, to the extent that the graffiti was not authorized in advance by the Bureau of Land Management.

(h) Graffiti implement means an aerosol paint container, a broad-tipped marker, gum label, paint stick or graffiti stick, etching equipment, brush or any other device capable of scarring or leaving a visible mark on any natural or manmade surface.

N.10.2 Alcohol and Drugs

(a) ***Operation of a Motor Vehicle while under the influence of alcohol or drugs***—It shall be illegal to operate or be in actual physical control of a motor vehicle on public lands while under the influence of alcohol, or a drug, or drugs or any combination thereof, to a degree that renders the operator incapable of safe operation of that vehicle; or the alcohol concentration in the blood or breath is 0.08 grams or more of alcohol per 100 milliliters of blood or 210 liters of breath. If the State of California establishes by statute a more restrictive standard of alcohol concentration than that defined in this supplementary rule, that more restrictive standard is hereby adopted and made a part of this supplementary rule and supersedes the standard specified in the preceding sentence.

(b) ***Open Container of Alcoholic Beverage***—It shall be illegal to carry or store a bottle, can or other receptacle containing an alcoholic beverage that is open, or has been opened, or whose seal is broken or the contents of which have been partially removed, within a motor vehicle on public lands. Each person within a motor vehicle is responsible for complying with the provision in this section that pertains to carrying an open container. The operator of a motor vehicle is the person responsible for complying with the provisions of this section that pertain to the storage of an open container. This section does not apply to:

(i) An open container stored in the trunk of a motor vehicle or, if a motor vehicle is not equipped with a trunk, to an open container stored in some other portion of the motor vehicle designed for the storage of luggage and not normally occupied by or readily accessible to the operator or passengers. For the purpose of this section, a utility compartment or glove compartment is deemed to be readily accessible to the operator and passengers of a motor vehicle; or

(ii) An open container stored in the living quarters of a motor home or camper; or

(iii) Unless otherwise prohibited, an open container carried or stored in a motor vehicle that is parked and the vehicle's occupant(s) are camping.

(c) ***Possession of Alcohol by a Minor***—Consumption or possession of any alcoholic beverage by a person under 21 years of age and the selling, offering to sell, or otherwise furnishing or

supplying any alcoholic beverage to a person less than 21 years of age, on public lands is prohibited. This does not apply to the selling, handling, serving, or transporting of alcoholic beverages by a person in the course of his lawful employment by a licensed manufacturer, wholesaler, or retailer of alcoholic beverages.

(d) ***Possession of Drug Paraphernalia***—Possession of drug paraphernalia, as defined in C.1 – Definitions (a), by any person on public lands is prohibited.

N.10.3 CAMPING

(a) ***Camping Time Limit***—Camping within designated campgrounds is limited to 14 days within any 90-day period; unless otherwise noted at the campground.

(b) ***Dispersed Camping Time Limit***—Dispersed camping is limited to 14 days within any 90-day period. After the 14th day, campers must move beyond a 25-mile radius of their previous camp.

(c) ***Dispersed Camping Parking***—Parking for dispersed camping (including cars, trucks, recreation vehicles, and trailers ["fifth wheels"]) is restricted to one vehicle width from the edge of the designated route, designated for use of the type of vehicle which is parked.

(d) ***Dispersed Camping location restrictions***—Dispersed camping is prohibited within:

(i) Any area identified for day-use;

(ii) Any area or site with identified campsites;

(iii) 25 yards of any freshwater source; and

(iv) 100 yards of any suitable segment of a Wild and Scenic River.

(e) ***Day-Use Only***—It shall be unlawful to stay beyond sunset or arrive before sunrise, as defined in C.1 – Definitions (f), in any area identified for "Day Use Only," unless specific written authorization is provided by the BLM. This prohibition is applied to the Cypress Mountain ACEC, Hopper Mountain ACEC, Los Osos ACEC, Pt. Sal ACEC, Ancient Lakeshores ACEC, Tierra Redonda ACEC, (vii) Compensation Lands ACEC, Cyrus Canyon ACEC, Kaweah ACEC (developed recreation sites only), The Dam RMZ, Piedras Blancas ONA, and the BLM land within the Frog Pond, Irish Hills, Atwell Island, Bittercreek, Fresno River, NS Salinas River.

(f) ***Use of Campfires***—Campfires, camp stoves, and charcoal grills are permitted on BLM-administered public lands within the Bakersfield Field Office, on receipt of a California State Fire Permit and in accordance with prevailing fire conditions and restrictions, unless otherwise prohibited through these supplemental rules, such as in day-use only areas or by California state or county regulation. Permit must be in posses while maintaining a campfire, camp stove or charcoal grill and all permit terms and conditions must be adhered to.

(g) ***Burning of Treated Lumber***—It is unlawful to burn treated lumber and woody materials containing hardware (nails and screws) on public lands.

(h) ***Collection of Combustible Material***—Collection of all combustible materials from public lands is prohibited, except for dead and downed woody materials no greater than 4 inches in diameter. Standing tree—whether living or dead—may not be cut without authorization. Materials must be collected with hand tools only (for example, an axe or saw), and all

material must remain to be burned on-site; any removal of such material requires a collection permit.

(i) ***Campfires in Day-Use Only Areas***—In areas designated for day-use only, campfires and the collection of combustible materials for use in a campfire are prohibited. The use of camp stoves and charcoal grills is allowed, in accordance with prevailing fire restrictions.

(j) ***Other Campfire Restrictions***—Campfires and the collection of combustible materials for use in campfires are prohibited in the Kettleman Hills ACEC, LoKern-Buena Vista ACEC, and Piute Cypress ACEC.

N.10.4 Closures

(a) ***Public Closure***—The following areas are closed to general public access; authorized, permitted, emergency and administrative access is still permitted: Oil fields with oil well densities higher than 20 wells per 40 acres, the raft launch at Granite Launch, Paradise Recreation Site, Cherry Falls; and Granite Cave.

(b) ***Seasonal Closure***—Public access to the recreation site at Advance, along the North Fork of the Kaweah River is prohibited from April 30th through September 30th each year, unless specifically authorized through a BLM-issued permit.

(c) ***Causal Collection***- Areas designated as ACECs are closed to causal collection of mineral materials, including fossils, agates and rocks.

N.10.5 Domesticated Animals

(a) ***Domesticated Animal Control***—Domesticated animals shall remain under their owners control at all times. Within the following areas, all domesticated animals are required to be on a leash: Atwell Island Project (not wetland areas), Wallow Rock RMZ, Dam RMZ, and Gold Fever RMZ.

(b) ***Domesticated Animals at Atwell Island***—All domesticated animals are prohibited from the areas of wetland restoration within the Atwell Island Project.

(c) ***Domesticated Animal Waste***—It shall be unlawful to fail to remove and appropriately dispose of waste deposited by a domesticated animal at any developed site on public lands, including campgrounds, picnic areas, and paved parking areas.

(d) ***Domesticated Animal Abandonment***—It shall be unlawful for any person to willfully abandon a domesticated animal on public lands.

N.10.6 Firearms

Unless specifically addressed by regulations set forth in 43 CFR, the laws and regulations of the State of California and the counties of Kern, Tulare, Fresno, Madera, San Luis Obispo, Ventura, Santa Barbara, and Kings shall govern the use and possession of firearms. Such state and county laws and regulations that are now in effect or that may later be in effect are hereby adopted and made part of these supplemental rules.

(a) ***Discharge of Firearms***—It shall be unlawful to discharge a firearm, as defined in C.1 – Definitions (e), unless hunting with a valid state hunting license and in accordance with the laws or law enforcement officers in the performance of their duties, within the following areas: Cypress Mountain ACEC, Hopper Mountain ACEC, Los Osos ACEC, Pt. Sal ACEC, Tierra Redonda ACEC, Ancient Lakeshores ACEC, Compensation Lands ACEC, Blue Ridge ACEC, Cyrus Canyon ACEC, Erskine Creek ACEC, Horse Canyon ACEC, Kaweah ACEC, The Dam RMZ, Wallow Rock RMZ, Gold Fever RMZ, Irish Hills, Piedras Blancas ONA, and the BLM lands within the Salinas River, Atwell Island, Bittercreek, and Fresno River.

(b) ***Target Shooting***—Target shooting, where allowed, is governed by the following rules:
   (i) Target shooting may occur only where a suitable backdrop exists to prevent ammunition from travelling excessive distances.
   (ii) Target shooting is not permitted across any designated route of travel or across any body of water, including flowing rivers and streams, lakes, and ponds.
   (iii) Target shooting is not permitted within 150 yards of any man-made object (except targets), structure, camp, or dwelling.
   (iv) Targets must be retrievable and suitable for the purpose. Rocks, trees, and other natural features, cultural or historic artifacts, glass, household trash, appliances, cars, and signs do not constitute targets.
   (v) All materials used for targets must be retrieved on completion of target shooting, and removed from BLM lands. This includes all spent shells and cartridges.
   (vi) Skeet/clay pigeon shooting and any similar style of target shooting that disperses targets in an irretrievable fashion is prohibited.

(c) ***Airsoft and Paintball:*** Airsoft and paintball activities, where allowed, are governed in accordance with the following guidelines and in adherence with state and federal and manufacturer safety instructions:
   (i) Airsoft and paintball are not permitted across any designated route of travel or across any body of water, including flowing rivers and streams, lakes, and ponds.
   (ii) Airsoft and paintball are not permitted within 150 yards of any man-made object, structure, camp, or dwelling, unless such structure is specifically designed and permitted for use in those activities.
   (iii) Biodegradable ammunition must be used.
   (iv) When practical, all materials associated with airsoft and paintball must be retrieved on completion of the activities.

N.10.7 Hunting and Fishing

Unless specifically addressed by regulations set forth in 43 CFR, the laws and regulations of the State of California and the California Department of Fish and Game and the supplemental rules below shall govern hunting on BLM-managed public lands within the BKFO; any specific state laws regarding hunting and fishing are hereby incorporated.

(a) ***Hunting***—In the following areas all forms of hunting are prohibited, unless specifically allowed through and by BLM authorization or permit; (i) Pt. Sal ACEC; (ii) The Dam RMZ, (iii) Wallow Rock RMZ, (iv) Gold Fever RMZ, (v) Piedras Blancas ONA, and (vi) the BLM land within the following areas; Irish Hills, Atwell Island, Bittercreek, Fresno River.

(b) ***Fishing***—All forms of fishing are prohibited, unless specifically allowed by BLM authorization or permit, in the BLM-managed waters within the restoration area at Atwell Island.

N.10.8 Mining

The supplementary rules below apply only to casual use, as defined in 43 CFR, 3809.5:

(a) Casual use (recreational mining and prospecting) is governed by the following rules:
  (i) Explosives, mercury, and other hazardous chemicals are prohibited;
  (ii) Only hand tools may be used. Motorized equipment, including pumps (except dredges), chainsaws, and mechanized earth-moving equipment (such as backhoes and bulldozers), are prohibited;
  (iii) All recreational mining and prospecting must be done on-site; that is, no material for processing may be removed;
  (iv) A valid permit from the California Department of Fish and Game is required to operate a suction dredge, and a BLM permit/authorization may also be required;
  (v) Water may not be pumped from water courses for any purpose;
  (vi) High banking, hydraulic mining, and ground sluicing are prohibited;
  (vii) Sluices, riffle boxes, and dry washers must have collecting surfaces of no greater than six square feet;
  (viii) Any surface disturbance shall be rectified on completion of activities, so as to reduce potential public health and safety hazards;
  (ix) Disturbance of trees and shrubs, including the root areas, is prohibited;
  (x) No prospecting shall occur on or within 30 feet of the centerline of designated routes and trails; and
  (xi) Any subsurface archaeological, historical, or paleontological remains discovered during mining must be left intact, all work in the area should stop, and the BKFO manager should be notified immediately; work may resume on clearance by the manager.

(b) ***Keyesville Recreational Mining***—Within the Keyesville Recreational Mining Area, the following applies, in addition to the general casual guidelines:
  (i) Those wishing to participate in recreational prospecting and mining must acquire a permit/authorization from BLM, for which a nominal fee may be charged;
  (ii) Dredges working Hogeye Gulch must have an intake nozzle diameter of three inches or less; and
  (iii) When working in the Kern River, dredges must be at least 100 feet apart. Cables may not cross the river and must not create hazards for boaters.

N.10.9 OHVs and Mechanized Equipment

(a) ***Cross-Country Travel***—Cross-country travel off designated routes is prohibited for all motorized and mechanized vehicles, except in designated OHV "open" areas and by uses exempted by 43 CFR, 8340.0-5(a).

(b) ***Edge of Road***—Any vehicle beyond 15 feet from the edge of the disturbed surface of a designated route would be considered to be travelling across country.

(c) ***Use of Designated Routes***—It shall be unlawful to use a route in a manner for which it is not designated, e.g., use of a designed "authorized" route by an unauthorized user.

N.10.10 Other Restrictions

(a) ***Advertising and Commercial Signs***—No person or organization shall announce, advertise, or call to public attention in any way any article, service, or thing for sale or hire, or paste, tack, or otherwise post any commercial sign, placard, or advertisement on public lands without prior authorization from the BLM.

(b) ***Bridge Jumping***—It shall be unlawful to jump from the foot bridge over the San Joaquin River.

(c) ***Concessions, Vending, and Peddling***—It shall be unlawful for any person or organization to operate a concession or expose or offer for sale any service, article or thing, nor shall any person or organization on public lands operate any stand, cart, or vehicle for the transportation, sale, or display of such items, unless specifically authorized through a Special Recreation Permit issued to include vending.

(d) ***Defacement***—It shall be unlawful for any person to apply graffiti to any natural or man-made surface on any BLM managed lands.

(e) ***Fireworks and Explosives***—Fireworks and explosives of any kind are prohibited on all public lands within the Bakersfield Field Office, without express authorization from the BLM.

(f) ***Memorialization***—It shall be unlawful for any person or organization to establish, erect, or define a memorial site on public lands without prior written authorization from the BLM. Memorial sites include the erection of religious symbols, creation of shrines, the placement of placards or other items identifying persons, events, animals, or other things that may be memorialized.

(g) ***Noncommercial Signs***—No person or organization shall announce, advertise, or call to public attention in any way any article, service, or location, or paste, tack, or otherwise post any sign or placard on public lands without prior authorization from the BLM.

(h) ***Obstructions across rivers***—It shall be unlawful to tie any obstruction from one bank of a river to the other, including cables, ropes, and rafts.

(i) ***Personal Property***—Personal property left unattended without prior authorization for at least 72 hours is deemed abandoned and can duly be removed and disposed of by the United States Government, the Bureau of Land Management, or any person acting on its behalf.

(j) ***Possession of Graffiti Implements***—It shall be unlawful for any person to possess any graffiti implement while in or on any BLM-managed lands, unless otherwise authorized.

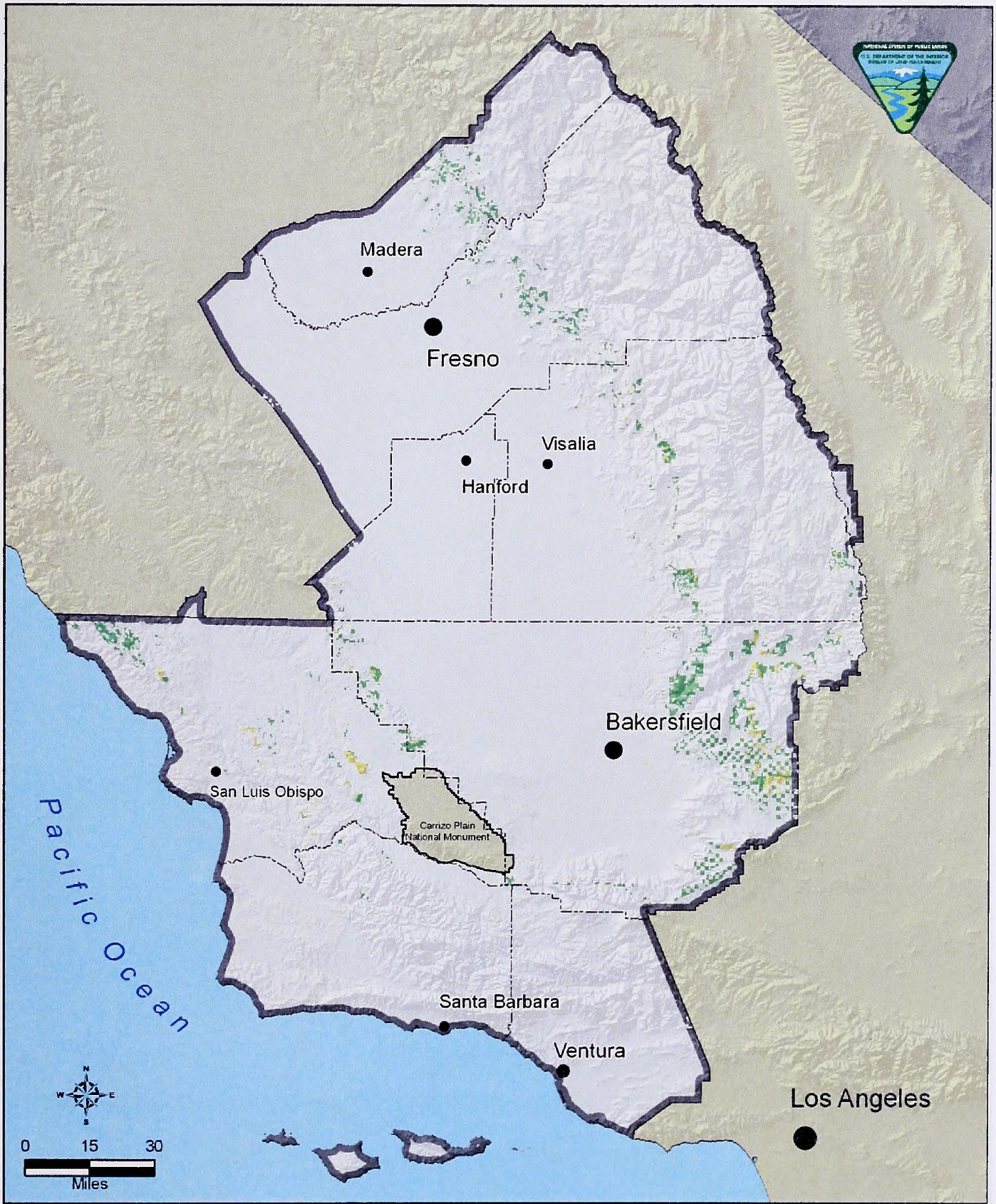
N.11 Penalties

Under the Federal Land Policy and Management Act of 1976, 43 USC, 1733(a), if you violate or fail to comply with these supplementary rules, you may be subjected to imprisonment for not more than 12 months, or a fine in accordance with 18 USC 3571, other penalties in accordance with 43 USC, 1733, or both.

APPENDIX O

Appendix O – Lands and Realty
Table of Contents

Appendix O – Lands and Realty O-1



Legend

Bakersfield Field Office

County Boundary

Lands not available for consideration for disposal

Lands Available for Consideration For Disposal

Public Lands

Federal Mineral Estate

Lands Available for Consideration For Disposal
Alternative B
Bakersfield Field Office

Map LR-B



Legend

Bakersfield Field Office

County Boundary

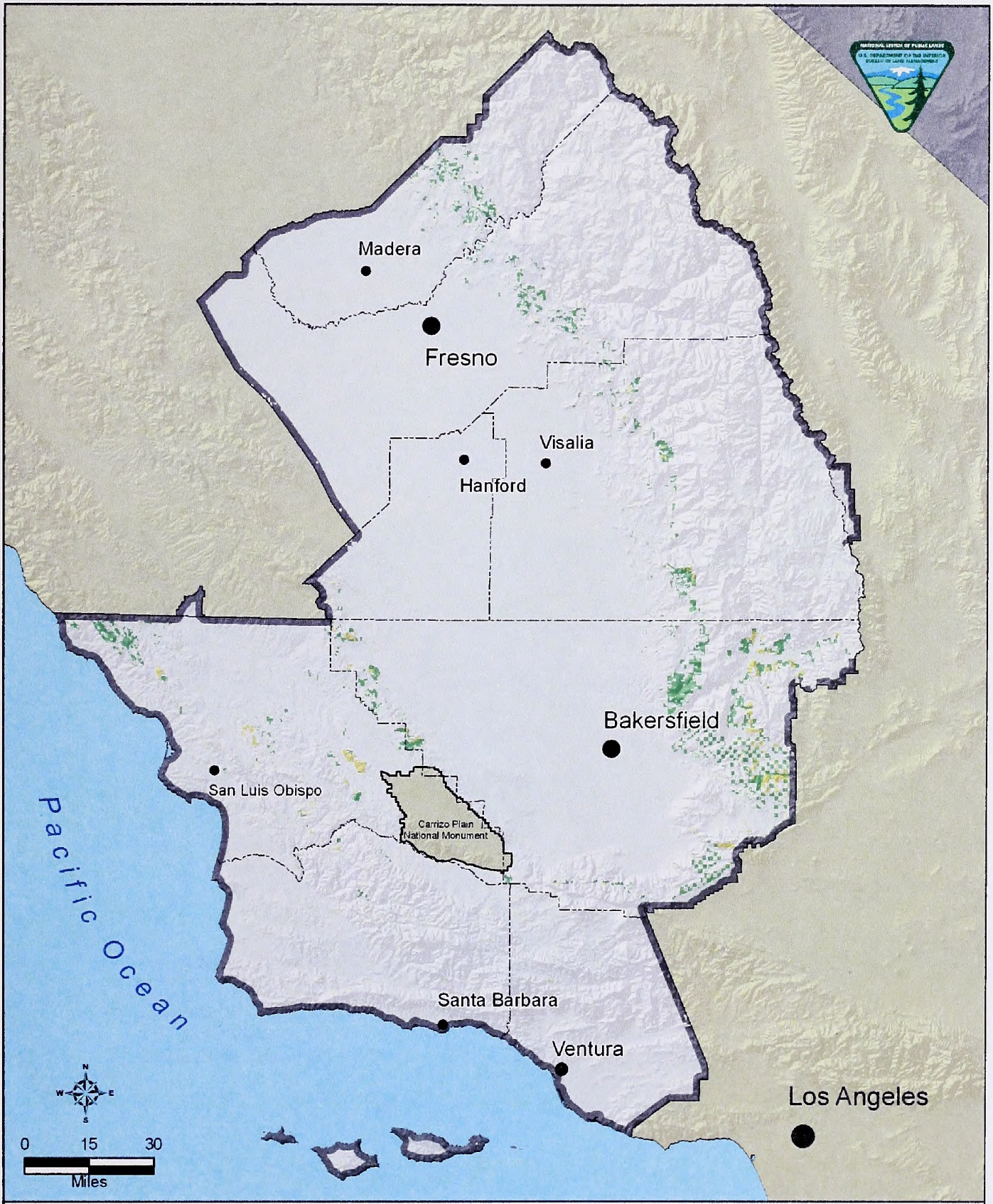
Lands Available for Consideration For Disposal

Public Lands

Federal Mineral Estate

Lands Available for Consideration For Disposal
Alternatives C/D
Bakersfield Field Office

Map LR-C/D



Legend

Bakersfield Field Office

County Boundary

Lands Available for Consideration For Disposal

Public Lands

Federal Mineral Estate

Lands Available for Consideration For Disposal
Alternative E
Bakersfield Field Office

Map LR-E

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT
Bakersfield Field Office
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